

PROTEIN-PROTEIN INTERACTIONS
Between *Shigella flexneri* polypeptides And Mammalian Polypeptides

PRIORITY

[0001] This application claims priority on the basis of United States Provisional Application No. 60/261,130, filed January 12, 2001, the contents of which are hereby incorporated by reference.

BACKGROUND OF THE INVENTION

[0002] Most biological processes involve specific protein-protein interactions. Protein-protein interactions enable two or more proteins to associate. A large number of non-covalent bonds form between the proteins when two protein surfaces are precisely matched. These bonds account for the specificity of recognition. Thus, protein-protein interactions are involved, for example, in the assembly of enzyme subunits, in antibody-antigen recognition, in the formation of biochemical complexes, in the correct folding of proteins, in the metabolism of proteins, in the transport of proteins, in the localization of proteins, in protein turnover, in first translation modifications, in the core structures of viruses and in signal transduction.

[0003] General methodologies to identify interacting proteins or to study these interactions have been developed. Among these methods are the two-hybrid system originally developed by Fields and co-workers and described, for example, in U.S. Patent Nos. 5,283,173, 5,468,614 and 5,667,973, which are hereby incorporated by reference.

[0004] The earliest and simplest two-hybrid system, which acted as basis for development of other versions, is an *in vivo* assay between two specifically constructed proteins. The first protein, known in the art as the "bait protein" is a chimeric protein which binds to a site on DNA upstream of a reporter gene by means of a DNA-binding domain or BD. Commonly, the binding domain is the DNA-binding domain from either Gal4 or native *E. coli* LexA and the sites placed upstream of the reporter are Gal4 binding sites or LexA operators, respectively.

[0005] The second protein is also a chimeric protein known as the "prey" in the art. This second chimeric protein carries an activation domain or AD. This activation domain is typically derived from Gal4, from VP16 or from B42.

[0006] Besides the two hybrid systems, other improved systems have been developed to detected protein-protein interactions. For example, a two-hybrid plus one system was developed that allows the use of two proteins as bait to screen available cDNA libraries to detect a third partner. This method permits the detection between proteins that are part of a larger protein complex such as the RNA polymerase II holoenzyme and the TFIIH or TFIIID complexes. Therefore, this method, in general, permits the detection of ternary complex

formation as well as inhibitors preventing the interaction between the two previously defined fused proteins.

[0007] Another advantage of the two-hybrid plus one system is that it allows or prevents the formation of the transcriptional activator since the third partner can be expressed from a conditional promoter such as the methionine-repressed Met25 promoter which is positively regulated in medium lacking methionine. The presence of the methionine-regulated promoter provides an excellent control to evaluate the activation or inhibition properties of the third partner due to its "on" and "off" switch for the formation of the transcriptional activator. The three-hybrid method is described, for example in Tirode et al., *The Journal of Biological Chemistry*, **272**, No. 37 pp. 22995-22999 (1997). incorporated herein by reference.

[0008] Besides the two and two-hybrid plus one systems, yet another variant is that described in Vidal et al, *Proc. Natl. Sci.* 93 pgs. 10315-10320 called the reverse two- and one-hybrid systems where a collection of molecules can be screened that inhibit a specific protein-protein or protein/DNA interactions, respectively.

[0009] A summary of the available methodologies for detecting protein-protein interactions is described in Vidal and Legrain, *Nucleic Acids Research* Vol. 27, No. 4 pgs.919-929 (1999) and Legrain and Selig, *FEBS Letters* 480 pgs. 32-36 (2000) which references are incorporated herein by reference.

[0010] However, the above conventionally used approaches and especially the commonly used two-hybrid methods have their drawbacks. For example, it is known in the art that, more often than not, false positives and false negatives exist in the screening method. In fact, a doctrine has been developed in this field for interpreting the results and in common practice an additional technique such as co-immunoprecipitation or gradient sedimentation of the putative interactors from the appropriate cell or tissue type are generally performed. The methods used for interpreting the results are described by Brent and Finley, Jr. in *Ann. Rev. Genet.*, 31 pgs. 663-704 (1997). Thus, the data interpretation is very questionable using the conventional systems.

[0011] One method to overcome the difficulties encountered with the methods in the prior art is described in WO 99/42612, incorporated herein by reference. This method is similar to the two-hybrid system described in the prior art in that it also uses bait and prey polypeptides. However, the difference with this method is that a step of mating at least one first haploid recombinant yeast cell containing the prey polypeptide to be assayed with a second haploid recombinant yeast cell containing the bait polynucleotide is performed. Of course the person skilled in the art would appreciate that either the first recombinant yeast cell or the second recombinant yeast cell also contains at least one detectable reporter gene that is activated by a polypeptide including a transcriptional activation domain.

[0012] The method described in WO 99/42612 permits the screening of more prey polynucleotides with a given bait polynucleotide in a single step than in the prior art systems due to the cell to cell mating strategy between haploid yeast cells. Furthermore, this method is more thorough and reproducible, as well as sensitive. Thus, the presence of false negatives and/or false positives is extremely minimal as compared to the conventional prior art methods.

[0013] The genus *Shigella* includes four species (major serogroups): *S. dysenteriae* (Grp. A), *S. flexneri* (Grp. B), *S. boydii* (Grp. C) and *S. sonnei* (Grp. D) as classified in Bergey's Manual for Systematic Bacteriology (N. R. Krieg, ed., pp. 423-427 (1984)). The genera *Shigella* and *Escherichia* are phylogenetically closely related. Brenner and others have suggested that the two are more correctly considered sibling species based on DNA/DNA reassociation studies (D. J. Brenner et al., International J. Systematic Bacteriology, 23:1-7 (1973)). These studies showed that *Shigella* species are on average 80-89% related to *E. coli* at the DNA level. Also, the degree of relatedness between *Shigella* species is on average 80-89%.

[0014] The genus *Shigella* is pathogenic in humans; it causes bacillary dysentery at levels of infection of 10 to 100 organisms.

[0015] Shigellosis or bacillary dysentery is a disease that is endemic throughout the world. The disease presents a particularly serious public health problem in tropical regions and developing countries where *Shigella dysenteriae* and *S. flexneri* predominate. In industrialized countries, the principal etiologic agent is *S. sonnei* although sporadic cases of shigellosis are encountered due to *S. flexneri*, *S. boydii* and certain entero-invasive *Escherichia coli*.

[0016] The primary step in the pathogenesis of bacillary dysentery is invasion of the human colonic mucosa by *Shigella* (Labrec, E. H., H. Schneider, T. J. Magnani, and S. B. Formal. 1964. Epithelial cell penetration as an essential step in the pathogenesis of bacillary dysentery. J. Bacteriol. 88:1503). Mucosal invasion encompasses several steps which include penetration of the bacteria into epithelial cells, intracellular multiplication, killing of host cells, and final spreading to adjacent cells and to connective tissue (Formal, S. B., T. L. Hale, and P. J. Sansonetti. 1983. Invasive enteric pathogens. Rev. Infect. Dis. 5:S702, Rout, W. R., S. B. Formal, R. A. Giannella, and G. J. Dammin. 1975. The pathophysiology of *Shigella* diarrhea in the Rhesus monkey; intestinal transport, morphology and bacteriological studies. Gastroenterology 68:270, Takeuchi, A., H. Spring, E. H. LaBrec, and S. B. Formal. 1965. Experimental acute colitis in the Rhesus monkey following peroral infection with *Shigella flexneri*. Am. J. Pathol. 52:503, Takeuchi, A. 1967. Electron microscope studies of experimental *Salmonella* infection. I. Penetration into cells of the intestinal epithelium by *Salmonella typhimurium*. Am. J. Pathol. 47:1011). The overall process which is usually

limited to the mucosal surface leads to a strong inflammatory reaction which is responsible for abscesses and ulcerations (Labrec, E. H., H. Schneider, T. J. Magnani, and S. B. Formal. 1964. Epithelial cell penetration as an essential step in the pathogenesis of bacillary dysentery. J. Bacteriol. 88:1503., Rout, W. R., S. B. Formal, R. A. Giannella, and G. J. Dammin. 1975. The pathophysiology of *Shigella* diarrhea in the Rhesus monkey; intestinal transport, morphology and bacteriological studies. Gastroenterology 68:270, Takeuchi, A., H. Spring, E. H. LaBrec, and S. B. Formal. 1965. Experimental acute colitis in the Rhesus monkey following peroral infection with *Shigella flexneri*. Am. J. Pathol. 52:503).

[0017] Even though dysentery is characteristic of shigellosis, it may be preceded by watery diarrhea. Diarrhea appears to be the result of disturbances in colonic reabsorption and increased jejunal secretion whereas dysentery is a purely colonic process (Kinsey, M. D., S. B. Formal, G. J. Dammin, and R. A. Giannella. 1976. Fluid and electrolyte transport in Rhesus monkeys challenged intracecally with *Shigella flexneri* 2a. Infect. Immun. 14:368). These include toxic megacolon, leukemoid reactions and hemolytic-uremic syndrome ("HUS"). The latter is a major cause of mortality from shigellosis in developing areas (Gianantonio, C., H. Vitacco, F. Mendilaharsu, A. Rutty, and J. Mendilaharsu. 1964. The hemolytic-uremic syndrome. J. Pediatr. 64:478, Koster, F., J. Levin, L. Walker, K. S. K. Tung, R. H. Gilman, M. M. Rajaman, M. A. Majid, S. Islam, and R. C. Williams Jr. 1977. Hemolyticuremic syndrome after shigellosis. Relation to endotoxin and circulating immune complexes. N. Engl. J. Med. 298:927).

[0018] The role of Shiga-toxin produced at high level by *S. dysenteriae* 1 (Conradi, H., 1903. Ueber loshliche, durch aseptische Autolyse, erhaltene Giftstoffe von Ruhr--un Typhus bazillen. Dtsch. Med. Wochenschr. 29:26) and Shiga-like toxins ("SLT") produced at low level by *S. flexneri* and *S. sonnei* (Keusch, G. T., and M. Jacewicz. 1977. The pathogenesis of *Shigella* diarrhea. VI. Toxin and antitoxin in *Shigella flexneri* and *Shigella sonnei* infections in humans. J. Infect. Dis. 135:552) in the four major stages of shigellosis (i.e., invasion of individual epithelial cells, tissue invasion, diarrhea and systemic symptoms) is not well understood. For review see O'Brien and Holmes (O'Brien, A. D., and R. K. Holmes. 1987. Shiga and Shiga-like toxins. Microbiol. Rev. 51:206). Plasmids of 180-220 kilobases ("kb") are essential in all *Shigella* species for invasion of individual epithelial cells (Rout, W. R., S. B. Formal, R. A. Giannella, and G. J. Dammin. 1975. The pathophysiology of *Shigella* diarrhea in the Rhesus monkey; intestinal transport, morphology and bacteriological studies. Gastroenterology 68:270, Sansonetti, P. J., D. J. Kopecko, and S. B. Formal. 1981. *Shigella sonnei* plasmids: evidence that a large plasmid is necessary for virulence. Infect. Immun. 34:75, Sansonetti, P. J., T. L. Hale, G. I. Dammin, C. Kapper, H. H. Collins Jr., and S. B. Formal. 1983. Alterations in the pathogenesis of *Escherichia coli* K12 after transfer of plasmids and chromosomal genes from *Shigella flexneri*. Infect. Immun. 39:1392). This

includes entry, intracellular multiplication and early killing of host cells (Clerc, P., A. Ryter, J. Mounier, and P. J. Sansonetti. 1987. Plasmid-mediated early killing of eucaryotic cells by *Shigella flexneri* as studied by infection of J774 macrophages. *Infect. Immun.* 55:521, Clerc, P., and P. J. Sansonetti. 1987. Entry of *Shigella flexneri* into HeLa cells: Evidence for directed phagocytosis involving actin polymerization and myosin accumulation. *Infect. Immun.* 55:2681). The role of Shiga-toxin and SLT at this stage is unclear.

[0019] Recent evidence indicates that Shiga-toxin is cytotoxic for primary cultures of human colonic cells (Moyer, M. P., P. S. Dixon, S. W. Rothman, and J. E. Brown. 1987. Cytotoxicity of Shiga toxin for human colonic and ileal epithelial cells. *Infect. Immun.* 55:1533). Tissue invasion requires additional chromosomally encoded products among which are smooth lipopolysaccharides ("LPS") (Sansonetti, P. J., T. L. Hale, G. I. Dammin, C. Kapper, H. H. Collins Jr., and S. B. Formal. 1983. Alterations in the pathogenesis of *Escherichia coli* K12 after transfer of plasmids and chromosomal genes from *Shigella flexneri*. *Infect. Immun.* 39:1392), the non-characterized product of the Kcp locus, and aerobactin. A region of the *S. flexneri* chromosome necessary for fluid production in rabbit ileal loops has been localized to the rha-mt1 regions and near the lysine decarboxylase locus (Sansonetti, P. J., T. L. Hale, G. I. Dammin, C. Kapper, H. H. Collins Jr., and S. B. Formal. 1983. Alterations in the pathogenesis of *Escherichia coli* K12 after transfer of plasmids and chromosomal genes from *Shigella flexneri*. *Infect. Immun.* 39:1392). However, no evidence has been adduced to show that the ability to cause fluid accumulation is due to the SLT of *S. flexneri*. Thus, the role of Shiga-toxin in causing the systemic complications of shigellosis is still hypothetical. However, Shiga-toxin can mediate vascular damage since capillary lesions observed in HUS resemble those observed in cerebral vessels of animals injected with this toxin (Bridgewater, F. A. I., R. S. Morgan, K. E. K. Rowson, and G. P. Wright. 1955. the neurotoxin of *Shigella shigae*. Morphological and functional lesions produced in the central nervous system of rabbits. *Br. J. Exp. Pathol.* 36: 447, Cavanagh, J. B., J. G. Howard, and J. L. Whitby. 1956. The neurotoxin of *Shigella shigae*. A comparative study of the effects produced in various laboratory animals. *Br. J. Exp. Med.* 37:272).

[0020] As described before, the genera of *Shigella* and *Escherichia* are phylogenetically closely related. Furthermore, the pathogenesis of enteroinvasive *E. coli* is very similar to that of *Shigella*. In both, dysentery results from invasion of the colonic epithelial cells followed by intracellular multiplication which leads to bloody, mucous discharge with scanty diarrhea.

[0021] Pathogenic *E. coli* serotypes are collectively referred to as Enterovirulent *E. coli* (EVEC) (J. R. Lupski, et al., *J. Infectious Diseases*, 157:1120-1123 (1988); M. M. Levine, *J. Infectious Diseases*, 155:377-389 (1987); M. A. Karmali, *Clinical Microbiology Reviews*, 2:15-38 (1989)). This group includes at least 5 subclasses of *E. coli*, each having a

characteristic pathogenesis pathway resulting in diarrheal disease. The subclasses include Enterotoxigenic *E. coli* (ETEC), Verotoxin-Producing *E. coli* (VTEC), Enteropathogenic *E. coli* (EPEC), Enteroadherent *E. coli* (EAEC) and Enteroinvasive *E. coli* (EIEC). The VTEC include Enterohemorrhagic *E. coli* (EHEC) since these produce verotoxins.

[0022] Thus, detection of *Shigella* and EIEC is important in various medical contexts. For example, the presence of either *Shigella* or EIEC in stool samples is indicative of gastroenteritis, and the ability to screen for their presence is useful in treating and controlling that disease. Detection of *Shigella* or EIEC in any possible transmission vehicle such as food is also important to avoid spread of gastroenteritis.

[0023] That is why there is a great need to construct Protein Interaction Map between *Shigella* polypeptides and human polypeptides in order to understand mechanisms of *Shigella* pathogenesis and to identify drug target to treat *Shigella* associated diseases and *Shigella* detection means.

SUMMARY OF THE PRESENT INVENTION

[0024] Thus, it is an object of the present invention to identify protein-protein interactions between *Shigella* polypeptides and mammalian, preferably human, polypeptides.

[0025] It is another object of the present invention to identify protein-protein interactions between *Shigella* polypeptides and mammalian, preferably human, polypeptides for the development of more effective and better targeted therapeutic applications.

[0026] It is yet another object of the present invention to identify complexes of polypeptides or polynucleotides encoding the polypeptides and fragments of the polypeptides of *Shigella* genus and polypeptides and fragments of the polypeptides of mammals, preferably human.

[0027] It is yet another object of the present invention to identify antibodies to these complexes of polypeptides or polynucleotides encoding the polypeptides and fragments of the polypeptides of *Shigella* genus and mammals, preferably human, including polyclonal, as well as monoclonal antibodies that are used for detection.

[0028] It is still another object of the present invention to identify selected interacting domains of the polypeptides, called SID® polypeptides.

[0029] It is still another object of the present invention to identify selected interacting domains of the polynucleotides, called SID® polynucleotides.

[0030] It is another object of the present invention to generate protein-protein interactions maps called PIM®s.

[0031] It is yet another object of the present invention to provide a method for screening drugs for agents which modulate the interaction of proteins and pharmaceutical compositions that are capable of modulating the protein-protein interactions between *Shigella* polypeptides and mammalian, preferably human, polypeptides.

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[0032] It is another object to administer the nucleic acids of the present invention via gene therapy.

[0033] It is yet another object of the present invention to provide protein chips or protein microarrays.

[0034] It is yet another object of the present invention to provide a report in, for example paper, electronic and/or digital forms, concerning the protein-protein interactions, the modulating compounds and the like as well as a PIM®.

[0035] Thus the present invention, in one aspect thereof, relates to a protein complex between a *Shigella* polypeptide and a mammalian polypeptide. In another embodiment, the *Shigella* and the mammalian polypeptides are polypeptides set forth on columns 1 and 3 respectively of Table II.

[0036] Furthermore, the present invention provides SID® polynucleotides and SID® polypeptides of Table III, as well as a PIM® between *Shigella* polypeptides and mammalian, preferably human, polypeptides.

[0037] The present invention also provides antibodies to the protein-protein complexes between *Shigella* polypeptides and mammal, preferably human, polypeptides.

[0038] In another embodiment the present invention provides a method for screening drugs for agents that modulate the protein-protein interactions and pharmaceutical compositions that are capable of modulating protein-protein interactions.

[0039] In another embodiment the present invention provides protein chips or protein microarrays.

[0040] In yet another embodiment the present invention provides a report in, for example, paper, electronic and/or digital forms.

BRIEF DESCRIPTION OF THE DRAWINGS

[0041] Fig. 1 is a schematic representation of the pB1 plasmid.

[0042] Fig. 2 is a schematic representation of the pB5 plasmid.

[0043] Fig. 3 is a schematic representation of the pB6 plasmid.

[0044] Fig. 4 is a schematic representation of the pB13 plasmid.

[0045] Fig. 5 is a schematic representation of the pB14 plasmid.

[0046] Fig. 6 is a schematic representation of the pB20 plasmid.

[0047] Fig. 7 is a schematic representation of the pP1 plasmid.

[0048] Fig. 8 is a schematic representation of the pP2 plasmid.

[0049] Fig. 9 is a schematic representation of the pP3 plasmid.

[0050] Fig. 10 is a schematic representation of the pP6 plasmid.

[0051] Fig. 11 is a schematic representation of the pP7 plasmid.

[0052] Fig. 12 is a schematic representation of vectors expressing the T25 fragment.

[0053] Fig. 13 is a schematic representation of vectors expressing the T18 fragment.

[0054] Fig. 14 is a schematic representation of various vectors of pCmAHL1, pT25 and pT18.

[0055] Fig. 15 is a schematic representation of identification of SID®. In this figure the "Full-length prey protein" is the Open Reading Frame (ORF) or coding sequence (CDS) where the identified prey polypeptides are included. The Selected Interaction Domain (SID®) is determined by the commonly shared polypeptide domain of every selected prey fragment.

[0056] Fig. 16 is a protein map (PIM®).

DETAILED DESCRIPTION OF THE INVENTION

[0057] As used herein the terms "polynucleotides", "nucleic acids" and "oligonucleotides" are used interchangeably and include, but are not limited to RNA, DNA, RNA/DNA sequences of more than one nucleotide in either single chain or duplex form. The polynucleotide sequences of the present invention may be prepared from any known method including, but not limited to, any synthetic method, any recombinant method, any *ex vivo* generation method and the like, as well as combinations thereof.

[0058] The term "polypeptide" means herein a polymer of amino acids having no specific length. Thus, peptides, oligopeptides and proteins are included in the definition of "polypeptide" and these terms are used interchangeably throughout the specification, as well as in the claims. The term "polypeptide" does not exclude post-translational modifications such as polypeptides having covalent attachment of glycosyl groups, aceteyl groups, phosphate groups, lipid groups and the like. Also encompassed by this definition of "polypeptide" are homologs thereof.

[0059] By the term "homologs" is meant structurally similar genes contained within a given species, orthologs are functionally equivalent genes from a given species or strain, as determined for example, in a standard complementation assay. Thus, a polypeptide of interest can be used not only as a model for identifying similiar genes in given strains, but also to identify homologs and orthologs of the polypeptide of interest in other species. The orthologs, for example, can also be identified in a conventional complementation assay. In addition or alternatively, such orthologs can be expected to exist in bacteria (or other kind of cells) in the same branch of the phylogenic tree, as set forth, for example, at <ftp://ftp.cme.msu.edu/pub/rdp/SSU-rRNA/SSU/Prok.phylo>.

[0060] As used herein the term "prey polynucleotide" means a chimeric polynucleotide encoding a polypeptide comprising (i) a specific domain; and (ii) a polypeptide that is to be tested for interaction with a bait polypeptide. The specific domain is preferably a transcriptional activating domain.

[0061] As used herein, a "bait polynucleotide" is a chimeric polynucleotide encoding a chimeric polypeptide comprising (i) a complementary domain; and (ii) a polypeptide that is to

be tested for interaction with at least one prey polypeptide. The complementary domain is preferably a DNA-binding domain that recognizes a binding site that is further detected and is contained in the host organism.

[0062] As used herein "complementary domain" is meant a functional constitution of the activity when bait and prey are interacting; for example, enzymatic activity.

[0063] As used herein "specific domain" is meant a functional interacting activation domain that may work through different mechanisms by interacting directly or indirectly through intermediary proteins with RNA polymerase II or III-associated proteins in the vicinity of the transcription start site.

[0064] As used herein the term "complementary" means that, for example, each base of a first polynucleotide is paired with the complementary base of a second polynucleotide whose orientation is reversed. The complementary bases are A and T (or A and U) or C and G.

[0065] The term "sequence identity" refers to the identity between two peptides or between two nucleic acids. Identity between sequences can be determined by comparing a position in each of the sequences which may be aligned for the purposes of comparison. When a position in the compared sequences is occupied by the same base or amino acid, then the sequences are identical at that position. A degree of sequence identity between nucleic acid sequences is a function of the number of identical nucleotides at positions shared by these sequences. A degree of identity between amino acid sequences is a function of the number of identical amino acid sequences that are shared between these sequences. Since two polypeptides may each (i) comprise a sequence (i.e., a portion of a complete polynucleotide sequence) that is similar between two polynucleotides, and (ii) may further comprise a sequence that is divergent between two polynucleotides, sequence identity comparisons between two or more polynucleotides over a "comparison window" refers to the conceptual segment of at least 20 contiguous nucleotide positions wherein a polynucleotide sequence may be compared to a reference nucleotide sequence of at least 20 contiguous nucleotides and wherein the portion of the polynucleotide sequence in the comparison window may comprise additions or deletions (i.e., gaps) of 20 percent or less compared to the reference sequence (which does not comprise additions or deletions) for optimal alignment of the two sequences.

[0066] To determine the percent identity of two amino acids sequences or two nucleic acid sequences, the sequences are aligned for optimal comparison. For example, gaps can be introduced in the sequence of a first amino acid sequence or a first nucleic acid sequence for optimal alignment with the second amino acid sequence or second nucleic acid sequence. The amino acid residues or nucleotides at corresponding amino acid positions or nucleotide positions are then compared. When a position in the first sequence is occupied

by the same amino acid residue or nucleotide as the corresponding position in the second sequence, the molecules are identical at that position.

[0067] The percent identity between the two sequences is a function of the number of identical positions shared by the sequences. Hence % identity = number of identical positions / total number of overlapping positions X 100.

[0068] In this comparison the sequences can be the same length or may be different in length. Optimal alignment of sequences for determining a comparison window may be conducted by the local homology algorithm of Smith and Waterman (*J. Theor. Biol.*, 91 (2) pgs. 370-380 (1981), by the homology alignment algorithm of Needleman and Wunsch, *J. Mol. Biol.*, 48(3) pgs. 443-453 (1972), by the search for similarity via the method of Pearson and Lipman, *PNAS, USA*, 85(5) pgs. 2444-2448 (1988) , by computerized implementations of these algorithms (GAP, BESTFIT, FASTA and TFASTA in the Wisconsin Genetics Software Package Release 7.0, Genetic Computer Group, 575, Science Drive, Madison, Wisconsin) or by inspection.

[0069] The best alignment (i.e., resulting in the highest percentage of identity over the comparison window) generated by the various methods is selected.

[0070] The term "sequence identity" means that two polynucleotide sequences are identical (i.e., on a nucleotide by nucleotide basis) over the window of comparison. The term "percentage of sequence identity" is calculated by comparing two optimally aligned sequences over the window of comparison, determining the number of positions at which the identical nucleic acid base (e.g., A, T, C, G, U, or I) occurs in both sequences to yield the number of matched positions, dividing the number of matched positions by the total number of positions in the window of comparison (i.e., the window size) and multiplying the result by 100 to yield the percentage of sequence identity. The same process can be applied to polypeptide sequences.

[0071] The percentage of sequence identity of a nucleic acid sequence or an amino acid sequence can also be calculated using BLAST software (Version 2.06 of September 1998) with the default or user defined parameter.

[0072] The term "sequence similarity" means that amino acids can be modified while retaining the same function. It is known that amino acids are classified according to the nature of their side groups and some amino acids such as the basic amino acids can be interchanged for one another while their basic function is maintained.

[0073] The term "isolated" as used herein means that a biological material such as a nucleic acid or protein has been removed from its original environment in which it is naturally present. For example, a polynucleotide present in a plant, mammal or animal is present in its natural state and is not considered to be isolated. The same polynucleotide separated

from the adjacent nucleic acid sequences in which it is naturally inserted in the genome of the plant or animal is considered as being "isolated."

[0074] The term "isolated" is not meant to exclude artificial or synthetic mixtures with other compounds, or the presence of impurities which do not interfere with the biological activity and which may be present, for example, due to incomplete purification, addition of stabilizers or mixtures with pharmaceutically acceptable excipients and the like.

[0075] "Isolated polypeptide" or "isolated protein" as used herein means a polypeptide or protein which is substantially free of those compounds that are normally associated with the polypeptide or protein in a naturally state such as other proteins or polypeptides, nucleic acids, carbohydrates, lipids and the like.

[0076] The term "purified" as used herein means at least one order of magnitude of purification is achieved, preferably two or three orders of magnitude, most preferably four or five orders of magnitude of purification of the starting material or of the natural material. Thus, the term "purified" as utilized herein does not mean that the material is 100% purified and thus excludes any other material.

[0077] The term "variants" when referring to, for example, polynucleotides encoding a polypeptide variant of a given reference polypeptide are polynucleotides that differ from the reference polypeptide but generally maintain their functional characteristics of the reference polypeptide. A variant of a polynucleotide may be a naturally occurring allelic variant or it may be a variant that is known naturally not to occur. Such non-naturally occurring variants of the reference polynucleotide can be made by, for example, mutagenesis techniques, including those mutagenesis techniques that are applied to polynucleotides, cells or organisms.

[0078] Generally, differences are limited so that the nucleotide sequences of the reference and variant are closely similar overall and, in many regions identical.

[0079] Variants of polynucleotides according to the present invention include, but are not limited to, nucleotide sequences which are at least 95% identical after alignment to the reference polynucleotide encoding the reference polypeptide. These variants can also have 96%, 97%, 98% and 99.999% sequence identity to the reference polynucleotide.

[0080] Nucleotide changes present in a variant polynucleotide may be silent, which means that these changes do not alter the amino acid sequences encoded by the reference polynucleotide.

[0081] Substitutions, additions and/or deletions can involve one or more nucleic acids. Alterations can produce conservative or non-conservative amino acid substitutions, deletions and/or additions.

[0082] Variants of a prey or a SID® polypeptide encoded by a variant polynucleotide can possess a higher affinity of binding and/or a higher specificity of binding to its protein or

polypeptide counterpart, against which it has been initially selected. In another context, variants can also lose their ability to bind to their protein or polypeptide counterpart.

[0083] By "anabolic pathway" is meant a reaction or series of reactions in a metabolic pathway that synthesize complex molecules from simpler ones, usually requiring the input of energy. An anabolic pathway is the opposite of a catabolic pathway.

[0084] As used herein, a "catabolic pathway" is a series of reactions in a metabolic pathway that break down complex compounds into simpler ones, usually releasing energy in the process. A catabolic pathway is the opposite of an anabolic pathway.

[0085] As used herein, "drug metabolism" is meant the study of how drugs are processed and broken down by the body. Drug metabolism can involve the study of enzymes that break down drugs, the study of how different drugs interact within the body and how diet and other ingested compounds affect the way the body processes drugs.

[0086] As used herein, "metabolism" means the sum of all of the enzyme-catalyzed reactions in living cells that transform organic molecules.

[0087] By "secondary metabolism" is meant pathways producing specialized metabolic products that are not found in every cell.

[0088] As used herein, "SID®" means a Selected Interacting Domain and is identified as follows: for each bait polypeptide screened, selected prey polypeptides are compared. Overlapping fragments in the same ORF or CDS define the selected interacting domain.

[0089] As used herein the term "PIM®" means a protein-protein interaction map. This map is obtained from data acquired from a number of separate screens using different bait polypeptides and is designed to map out all of the interactions between the polypeptides.

[0090] The term "affinity of binding", as used herein, can be defined as the affinity constant K_a when a given SID® polypeptide of the present invention which binds to a polypeptide and is the following mathematical relationship:

[0091] [SID®/polypeptide complex]

[0092] $K_a = \frac{[SID®/polypeptide complex]}{[free SID®][free polypeptide]}$

[0093] [free SID®] [free polypeptide]

[0094] wherein [free SID®], [free polypeptide] and [SID®/polypeptide complex] consist of the concentrations at equilibrium respectively of the free SID® polypeptide, of the free polypeptide onto which the SID® polypeptide binds and of the complex formed between SID® polypeptide and the polypeptide onto which said SID® polypeptide specifically binds.

[0095] The affinity of a SID® polypeptide of the present invention or a variant thereof for its polypeptide counterpart can be assessed, for example, on a Biacore™ apparatus marketed by Amersham Pharmacia Biotech Company such as described by Szabo et al *Curr*

Opin Struct Biol 5 pgs. 699-705 (1995) and by Edwards and Leartherbarrow, *Anal. Biochem* 246 pgs. 1-6 (1997).

[0096] As used herein the phrase "at least the same affinity" with respect to the binding affinity between a SID® polypeptide of the present invention to another polypeptide means that the K_a is identical or can be at least two-fold, at least three-fold or at least five fold greater than the K_a value of reference.

[0097] As used herein, the term "modulating compound" means a compound that inhibits or stimulates or can act on another protein which can inhibit or stimulate the protein-protein interaction of a complex of two polypeptides or the protein-protein interaction of two polypeptides.

[0098] More specifically, the present invention comprises complexes of polypeptides or polynucleotides encoding the polypeptides composed of a bait polypeptide, or a bait polynucleotide encoding a bait polypeptide and a prey polypeptide or a prey polynucleotide encoding a prey polypeptide. The prey polypeptide or prey polynucleotide encoding the prey polypeptide is capable of interacting with a bait polypeptide of interest in various hybrid systems.

[0099] As described in the Background of the present invention there are various methods known in the art to identify prey polypeptides that interact with bait polypeptides of interest. These methods, include, but are not limited to, generic two-hybrid systems as described by Fields et al in *Nature*, 340:245-246 (1989) and more specifically in U.S. Patent Nos. 5,283,173, 5,468,614 and 5,667,973, which are hereby incorporated by reference; the reverse two-hybrid system described by Vidal et al, *supra*; the two plus one hybrid method described, for example, in Tirode et al, *supra*; the yeast forward and reverse 'n'-hybrid systems as described in Vidal and Legrain, *supra*; the method described in WO 99/42612; those methods described in Legrain et al *FEBS Letters* 480 pgs. 32-36 (2000) and the like.

[0100] The present invention is not limited to the type of method utilized to detect protein-protein interactions and therefore any method known in the art and variants thereof can be used. It is however better to use the method described in WO 99/42612 or WO 00/66722, both references incorporated herein by reference due to the methods' sensitivity, reproducibility and reliability.

[0101] Protein-protein interactions can also be detected using complementation assays such as those described by Pelletier et al. at <http://www.abrf.org/JBT/Articles/JBT0012/jbt0012.html>, WO 00/07038 and WO98/34120.

[0102] Although the above methods are described for applications in the yeast system, the present invention is not limited to detecting protein-protein interactions using yeast, but also includes similar methods that can be used in detecting protein-protein interactions in, for example, mammalian systems as described, for example in Takacs et al., *Proc. Natl. Acad.*

Sci., USA, **90** (21):10375-79 (1993) and Vasavada et al., *Proc. Natl. Acad. Sci., USA*, **88** (23):10686-90 (1991), as well as a bacterial two-hybrid system as described in Karimova et al (1998), WO99/28746, WO 00/66722 and Legrain et al *FEBS Letters*, **480** pgs. 32-36 (2000).

[0103] The above-described methods are limited to the use of yeast, mammalian cells and *Escherichia coli* cells, the present invention is not limited in this manner. Consequently, mammalian and typically human cells, as well as bacterial, yeast, fungus, insect, nematode and plant cells are encompassed by the present invention and may be transfected by the nucleic acid or recombinant vector as defined herein.

[0104] Examples of suitable cells include, but are not limited to, VERO cells, HELA cells such as ATCC No. CCL2, CHO cell lines such as ATCC No. CCL61, COS cells such as COS-7 cells and ATCC No. CRL 1650 cells, W138, BHK, HepG2, 3T3 such as ATCC No. CRL6361, A549, PC12, K562 cells, 293 cells, Sf9 cells such as ATCC No. CRL1711 and Cv1 cells such as ATCC No. CCL70.

[0105] Other suitable cells that can be used in the present invention include, but are not limited to, prokaryotic host cells strains such as *Escherichia coli*, (e.g., strain DH5- α), *Bacillus subtilis*, *Salmonella typhimurium*, or strains of the genera of *Pseudomonas*, *Streptomyces* and *Staphylococcus*.

[0106] Further suitable cells that can be used in the present invention include yeast cells such as those of *Saccharomyces* such as *Saccharomyces cerevisiae*.

[0107] The bait polynucleotide, as well as the prey polynucleotide can be prepared according to the methods known in the art such as those described above in the publications and patents reciting the known method *per se*.

[0108] The bait polynucleotide of the present invention is obtained from *Shigella flexneri* (see Table I). The prey polynucleotide is obtained from a human placenta cDNA or variants thereof and fragments from the genome or transcriptome of human placenta ranging from about 12 to about 5,000, or about 12 to about 10,000 or from about 12 to about 20,000. The prey polynucleotide is then selected, sequenced and identified.

[0109] A human placenta cDNA prey library is prepared from global human placenta and constructed in the specially designed prey vector pP6 as shown in Figure 10 after ligation of suitable linkers such that every cDNA fragment insert is fused to a nucleotide sequence in the vector that encodes the transcription activation domain of a reporter gene. Any transcription activation domain can be used in the present invention. Examples include, but are not limited to, Gal4, YP16, B42, His and the like. Toxic reporter genes, such as CAT^R, CYH2, CYH1, URA3, bacterial and fungi toxins and the like can be used in reverse two-hybrid systems.

[0110] The polypeptides encoded by the nucleotide inserts of the human placenta cDNA prey library thus prepared are termed "prey polypeptides" in the context of the presently described selection method of the prey polynucleotides.

[0111] The bait polynucleotide can be inserted in bait plasmid pB6 or pB20 as illustrated in Figure 3 or 6 respectively. The bait polynucleotide insert is fused to a polynucleotide encoding the binding domain of, for example, the Gal4 DNA binding domain and the shuttle expression vector is used to transform cells. The bait polynucleotides used in the present invention are describes in Table I. As stated above, any cells can be utilized in transforming the bait and prey polynucleotides of the present invention including mammalian cells, bacterial cells, yeast cells, insect cells and the like.

[0112] In an embodiment, the present invention identifies protein-protein interactions in yeast. In using known methods a prey positive clone is identified containing a vector which comprises a nucleic acid insert encoding a prey polypeptide which binds to a bait polypeptide of interest. The method in which protein-protein interactions are identified comprises the following steps:

[0113] mating at least one first haploid recombinant yeast cell clone from a recombinant yeast cell clone library that has been transformed with a plasmid containing the prey polynucleotide to be assayed with a second haploid recombinant yeast cell clone transformed with a plasmid containing a bait polynucleotide encoding for the bait polypeptide;

[0114] cultivating diploid cell clones obtained in step i) on a selective medium; and

[0115] selecting recombinant cell clones which grow on the selective medium.

[0116] This method may further comprise the step of:

[0117] iv) characterizing the prey polynucleotide contained in each recombinant cell clone which is selected in step iii).

[0118] In yet another embodiment of the present invention, *in lieu* of yeast, *Escherichia coli* is used in a bacterial two-hybrid system, which encompasses a similar principle to that described above for yeast, but does not involve mating for characterizing the prey polynucleotide.

[0119] In yet another embodiment of the present invention, mammalian cells and a method similar to that described above for yeast for characterizing the prey polynucleotide are used.

[0120] By performing the yeast, bacterial or mammalian two-hybrid system it is possible to identify for one particular bait an interacting prey polypeptide. The prey polypeptide that has been selected by testing the library of preys in a screen using the two-hybrid, two plus one hybrid methods and the like, encodes the polypeptide interacting with the protein of interest.

[0121] The present invention is also directed, in a general aspect, to a complex of polypeptides, polynucleotides encoding the polypeptides composed of a bait polypeptide or bait polynucleotide encoding the bait polypeptide and a prey polypeptide or prey polynucleotide encoding the prey polypeptide capable of interacting with the bait polypeptide of interest. These complexes are identified in Table II, as the bait amino acid sequences and the prey amino acid sequences, as well as the bait and prey nucleic acid sequences.

[0122] In another aspect, the present invention relates to a complex of polynucleotides consisting of a first polynucleotide, or a fragment thereof, encoding a prey polypeptide that interacts with a bait polypeptide and a second polynucleotide or a fragment thereof. This fragment has at least 12 consecutive nucleotides, but can have between 12 and 5,000 consecutive nucleotides, or between 12 and 10,000 consecutive nucleotides or between 12 and 20,000 consecutive nucleotides.

[0123] The polypeptides of column 1 and 3 from Table II according to the present invention and the complexes of these two polypeptides also form part of the present invention. More specifically, the polypeptides of SEQ ID NOS. 1 to 7 are part of the present invention and their complexes with the polypeptides of Column 3, Table II.

[0124] In yet another embodiment, the present invention relates to an isolated complex of at least two polypeptides encoded by two polynucleotides wherein said two polypeptides are associated in the complex by affinity binding and are depicted in columns 1 and 3 of Table II.

[0125] In yet another embodiment, the present invention relates to an isolated complex comprising at least a polypeptide as described in column 1 of Table II and a polypeptide as described in column 3 of Table II. The present invention is not limited to these polypeptide complexes alone but also includes the isolated complex of the two polypeptides in which fragments and/or homologous polypeptides exhibiting at least 95% sequence identity, as well as from 96% sequence identity to 99.999% sequence identity.

[0126] Also encompassed in another embodiment of the present invention is an isolated complex in which SID® of the prey polypeptides encoded by SEQ ID Nos. 15 to 215 in Table III form the isolated complex.

[0127] Besides the isolated complexes described above, nucleic acids coding for a Selected Interacting Domain (SID®) polypeptide or a variant thereof or any of the nucleic acids set forth in Table III can be inserted into an expression vector which contains the necessary elements for the transcription and translation of the inserted protein-coding sequence. Such transcription elements include a regulatory region and a promoter. Thus, the nucleic acid which may encode a marker compound of the present invention is operably linked to a promoter in the expression vector. The expression vector may also include a replication origin.

[0128] A wide variety of host/expression vector combinations are employed in expressing the nucleic acids of the present invention. Useful expression vectors that can be used include, for example, segments of chromosomal, non-chromosomal and synthetic DNA sequences. Suitable vectors include, but are not limited to, derivatives of SV40 and pcDNA and known bacterial plasmids such as col EI, pCR1, pBR322, pMal-C2, pET, pGEX as described by Smith et al [need cite 1988], pMB9 and derivatives thereof, plasmids such as RP4, phage DNAs such as the numerous derivatives of phage I such as NM989, as well as other phage DNA such as M13 and filamentous single stranded phage DNA; yeast plasmids such as the 2 micron plasmid or derivatives of the 2m plasmid, as well as centomeric and integrative yeast shuttle vectors; vectors useful in eukaryotic cells such as vectors useful in insect or mammalian cells; vectors derived from combinations of plasmids and phage DNAs, such as plasmids that have been modified to employ phage DNA or the expression control sequences; and the like.

[0129] For example in a baculovirus expression system, both non-fusion transfer vectors, such as, but not limited to pVL941 (*Bam*HI cloning site Summers, pVL1393 (*Bam*HI, *Sma*I, *Xba*I, *Eco*RI, *Not*I, *Xma*III, *Bgl*II and *Pst*I cloning sites; Invitrogen) pVL1392 (*Bgl*II, *Pst*I, *Not*I, *Xma*III, *Eco*RI, *Xba*I, *Sma*I and *Bam*HI cloning site; Summers and Invitrogen) and pBlueBacIII (*Bam*HI, *Bgl*II, *Pst*I, *Nco*I and *Hind*III cloning site, with blue/white recombinant screening, Invitrogen), and fusion transfer vectors such as, but not limited to, pAc700(*Bam*HI and *Kpn*I cloning sites, in which the *Bam*HI recognition site begins with the initiation codon; Summers), pAc701 and pAc70-2 (same as pAc700, with different reading frames), pAc360 (*Bam*HI cloning site 36 base pairs downstream of a polyhedrin initiation codon; Invitrogen (195)) and pBlueBacHisA, B, C (three different reading frames with *Bam*HI, *Bgl*II, *Pst*I, *Nco*I and *Hind*III cloning site, an N-terminal peptide for ProBond purification and blue/white recombinant screening of plaques; Invitrogen (220) can be used.

[0130] Mammalian expression vectors contemplated for use in the invention include vectors with inducible promoters, such as the dihydrofolate reductase promoters, any expression vector with a DHFR expression cassette or a DHFR/methotrexate co-amplification vector such as pED (*Pst*I, *Sal*I, *Sba*I, *Sma*I and *Eco*RI cloning sites, with the vector expressing both the cloned gene and DHFR; Kaufman, 1991). Alternatively a glutamine synthetase/methionine sulfoximine co-amplification vector, such as pEE14 (*Hind*III, *Xba*I, *Sma*I, *Sba*I, *Eco*RI and *Bcl*I cloning sites in which the vector expresses glutamine synthetase and the cloned gene; Celltech). A vector that directs episomal expression under the control of the Epstein Barr Virus (EBV) or nuclear antigen (EBNA) can be used such as pREP4 (*Bam*HI, *Sfi*I, *Xho*I, *Not*I, *Nhe*I, *Hind*III, *Nhe*I, *Pvu*II and *Kpn*I cloning sites, constitutive RSV-LTR promoter, hygromycin selectable marker; Invitrogen) pCEP4 (*Bam*HI, *Sfi*I, *Xho*I, *Not*I, *Nhe*I, *Hind*III, *Nhe*I, *Pvu*II and *Kpn*I cloning sites, constitutive hCMV

immediate early gene promoter, hygromycin selectable marker; Invitrogen), pMEP4 (*KpnI*, *PvuI*, *NheI*, *HindIII*, *NotI*, *XhoI*, *SfiI*, *BamHI* cloning sites, inducible methallothionein IIa gene promoter, hygromycin selectable marker, Invitrogen), pREP8 (*BamHI*, *XhoI*, *NotI*, *HindIII*, *NheI* and *KpnI* cloning sites, RSV-LTR promoter, histidinol selectable marker; Invitrogen), pREP9 (*KpnI*, *NheI*, *HindIII*, *NotI*, *XhoI*, *SfiI*, *BamHI* cloning sites, RSV-LTR promoter, G418 selectable marker; Invitrogen), and pEBVHis (RSV-LTR promoter, hygromycin selectable marker, N-terminal peptide purifiable via ProBond resin and cleaved by enterokinase; Invitrogen).

[0131] Selectable mammalian expression vectors for use in the invention include, but are not limited to, pRc/CMV (*HindIII*, *BstXI*, *NotI*, *SbaI* and *ApaI* cloning sites, G418 selection, Invitrogen), pRc/RSV (*HindII*, *SpeI*, *BstXI*, *NotI*, *XbaI* cloning sites, G418 selection, Invitrogen) and the like. Vaccinia virus mammalian expression vectors (see, for example Kaufman 1991 that can be used in the present invention include, but are not limited to, pSC11 (*SmaI* cloning site, TK- and β -gal selection), pMJ601 (*SaI*, *SmaI*, *AflI*, *NarI*, *BspMII*, *BamHI*, *ApaI*, *NheI*, *SacII*, *KpnI* and *HindIII* cloning sites; TK- and β -gal selection), pTKgptF1S (*EcoRI*, *PstI*, *SaII*, *AccI*, *HindII*, *SbaI*, *BamHI* and *HpaI* cloning sites, TK or XPRT selection) and the like.

[0132] Yeast expression systems that can also be used in the present include, but are not limited to, the non-fusion pYES2 vector (*XbaI*, *SphI*, *ShoI*, *NotI*, *GstXI*, *EcoRI*, *BstXI*, *BamHI*, *SacI*, *KpnI* and *HindIII* cloning sites, Invitrogen), the fusion pYESHisA, B, C (*XbaI*, *SphI*, *ShoI*, *NotI*, *BstXI*, *EcoRI*, *BamHI*, *SacI*, *KpnI* and *HindIII* cloning sites, N-terminal peptide purified with ProBond resin and cleaved with enterokinase; Invitrogen), pRS vectors and the like.

[0133] Consequently, mammalian and typically human cells, as well as bacterial, yeast, fungi, insect, nematode and plant cells an used in the present invention and may be transfected by the nucleic acid or recombinant vector as defined herein.

[0134] Examples of suitable cells include, but are not limited to, VERO cells, HELA cells such as ATCC No. CCL2, CHO cell lines such as ATCC No. CCL61, COS cells such as COS-7 cells and ATCC No. CRL 1650 cells, W138, BHK, HepG2, 3T3 such as ATCC No. CRL6361, A549, PC12, K562 cells, 293 cells, Sf9 cells such as ATCC No. CRL1711 and Cv1 cells such as ATCC No. CCL70.

[0135] Other suitable cells that can be used in the present invention include, but are not limited to, prokaryotic host cells strains such as *Escherichia coli*, (e.g., strain DH5- α), *Bacillus subtilis*, *Salmonella typhimurium*, or strains of the genera of *Pseudomonas*, *Streptomyces* and *Staphylococcus*.

[0136] Further suitable cells that can be used in the present invention include yeast cells such as those of *Saccharomyces* such as *Saccharomyces cerevisiae*.

[0137] Besides the specific isolated complexes, as described above, the present invention relates to and also encompasses SID® polynucleotides. As explained above, for each bait polypeptide, several prey polypeptides may be identified by comparing and selecting the intersection of every isolated fragment that are included in the same polypeptide. Thus the SID® polynucleotides of the present invention are represented by the shared nucleic acid sequences of SEQ ID Nos. 15 to 215 encoding the SID® polypeptides of SEQ ID Nos. 216 to 416 in columns 5 and 7 of Table III, respectively.

[0138] The present invention is not limited to the SID® sequences as described in the above paragraph, but also includes fragments of these sequences having at least 12 consecutive nucleic acids, between 12 and 5,000 consecutive nucleic acids and between 12 and 10,000 consecutive nucleic acids and between 12 and 20,000 consecutive nucleic acids, as well as variants thereof. The fragments or variants of the SID® sequences possess at least the same affinity of binding to its protein or polypeptide counterpart, against which it has been initially selected. Moreover this variant and/or fragments of the SID® sequences alternatively can have between 95% and 99.999% sequence identity to its protein or polypeptide counterpart.

[0139] According to the present invention the variants can be created by known mutagenesis techniques either *in vitro* or *in vivo*. Such a variant can be created such that it has altered binding characteristics with respect to the target protein and more specifically that the variant binds the target sequence with either higher or lower affinity.

[0140] Polynucleotides that are complementary to the above sequences which include the polynucleotides of the SID®'s, their fragments, variants and those that have specific sequence identity are also included in the present invention.

[0141] The polynucleotide encoding the SID® polypeptide, fragment or variant thereof can also be inserted into recombinant vectors which are described in detail above.

[0142] The present invention also relates to a composition comprising the above-mentioned recombinant vectors containing the SID® polypeptides in Table III, fragments or variants thereof, as well as recombinant host cells transformed by the vectors. The recombinant host cells that can be used in the present invention were discussed in greater detail above.

[0143] The compositions comprising the recombinant vectors can contain physiological acceptable carriers such as diluents, adjuvants, excipients and any vehicle in which this composition can be delivered therapeutically and can include, but is are not limited to sterile liquids such as water and oils.

[0144] In yet another embodiment, the present invention relates to a method of selecting modulating compounds, as well as the modulating molecules or compounds themselves which may be used in a pharmaceutical composition. These modulating compounds may

act as a cofactor, as an inhibitor, as antibodies, as tags, as a competitive inhibitor, as an activator or alternatively have agonistic or antagonistic activity on the protein-protein interactions.

[0145] The activity of the modulating compound does not necessarily, for example, have to be 100% activation or inhibition. Indeed, even partial activation or inhibition can be achieved that is of pharmaceutical interest.

[0146] The modulating compound can be selected according to a method which comprises:

[0147] cultivating a recombinant host cell with a modulating compound on a selective medium and a reporter gene the expression of which is toxic for said recombinant host cell wherein said recombinant host cell is transformed with two vectors:

[0148] wherein said first vector comprises a polynucleotide encoding a first hybrid polypeptide having a DNA binding domain;

[0149] wherein said second vector comprises a polynucleotide encoding a second hybrid polypeptide having a transcriptional activating domain that activates said toxic reporter gene when the first and second hybrid polypeptides interact;

[0150] selecting said modulating compound which inhibits or permits the growth of said recombinant host cell.

[0151] Thus, the present invention relates to a modulating compound that inhibits the protein-protein interactions between *Shigella flexneri* polypeptide and human placenta polypeptide of columns 1 and 3 of Table II, respectively. The present invention also relates to a modulating compound that activates the protein-protein interactions between *Shigella flexneri* polypeptide and human placenta polypeptide of columns 1 and 3 of Table II, respectively.

[0152] In yet another embodiment, the present invention relates to a method of selecting a modulating compound, which modulating compound inhibits the interaction between *Shigella flexneri* polypeptide and human placenta polypeptide of columns 1 and 3 of Table II, respectively. This method comprises:

(a) cultivating a recombinant host cell with a modulating compound on a selective medium and a reporter gene the expression of which is toxic for said recombinant host cell wherein said recombinant host cell is transformed with two vectors:

(i) wherein said first vector comprises a polynucleotide encoding a first hybrid polypeptide having a first domain of an enzyme;

(ii) wherein said second vector comprises a polynucleotide encoding a second hybrid polypeptide having an enzymatic transcriptional activating domain that activates said toxic reporter gene when the first and second hybrid polypeptides interact;

(b) selecting said modulating compound which inhibits or permits the growth of said recombinant host cell.

[0153] In the two methods described above any toxic reporter gene can be utilized including those reporter genes that can be used for negative selection including the URA3 gene, the CYH1 gene, the CYH2 gene and the like.

[0154] In yet another embodiment, the present invention provides a kit for screening a modulating compound. This kit comprises a recombinant host cell which comprises a reporter gene the expression of which is toxic for the recombinant host cell. The host cell is transformed with two vectors. The first vector comprises a polynucleotide encoding a first hybrid polypeptide having a DNA binding domain; and a second vector comprises a polynucleotide encoding a second hybrid polypeptide having a transcriptional activating domain that activates said toxic reporter gene when the first and second hybrid polypeptides interact.

[0155] In yet another embodiment a kit is provided for screening a modulating compound by providing a recombinant host cell, as described in the paragraph above, but instead of a DNA binding domain, the first vector comprises a first hybrid polypeptide containing a first domain of a protein. The second vector comprises a second polypeptide containing a second part of a complementary domain of a protein that activates the toxic reporter gene when the first and second hybrid polypeptides interact.

[0156] In the selection methods described above, the activating domain can be p42 Gal 4, YP16 (HSV) and the DNA-binding domain can be derived from Gal4 or Lex A. The protein or enzyme can be adenylate cyclase, guanylate cyclase, DHFR and the like.

[0157] Examples of modulating compounds are set forth in Table III.

[0158] In yet another embodiment, the present invention relates to a pharmaceutical composition comprising the modulating compounds for preventing or treating bacillary dysentery in a human or animal, most preferably in a mammal.

[0159] This pharmaceutical composition comprises a pharmaceutically acceptable amount of the modulating compound. The pharmaceutically acceptable amount can be estimated from cell culture assays. For example, a dose can be formulated in animal models to achieve a circulating concentration range that includes or encompasses a concentration point or range having the desired effect in an *in vitro* system. This information can thus be used to accurately determine the doses in other mammals, including humans and animals.

[0160] The therapeutically effective dose refers to that amount of the compound that results in amelioration of symptoms in a patient. Toxicity and therapeutic efficacy of such compounds can be determined by standard pharmaceutical procedures in cell cultures or in experimental animals. For example, the LD50 (the dose lethal to 50% of the population) as

well as the ED50 (the dose therapeutically effective in 50% of the population) can be determined using methods known in the art. The dose ratio between toxic and therapeutic effects is the therapeutic index which can be expressed as the ratio between LD 50 and ED50 compounds that exhibit high therapeutic indexes.

[0161] The data obtained from the cell culture and animal studies can be used in formulating a range of dosage of such compounds which lies preferably within a range of circulating concentrations that include the ED50 with little or no toxicity.

[0162] The pharmaceutical composition can be administered via any route such as locally, orally, systemically, intravenously, intramuscularly, mucosally, using a patch and can be encapsulated in liposomes, microparticles, microcapsules, and the like. The pharmaceutical composition can be embedded in liposomes or even encapsulated.

[0163] Any pharmaceutically acceptable carrier or adjuvant can be used in the pharmaceutical composition. The modulating compound will be preferably in a soluble form combined with a pharmaceutically acceptable carrier. The techniques for formulating and administering these compounds can be found in "*Remington's Pharmaceutical Sciences*" Mack Publication Co., Easton, PA, latest edition.

[0164] The mode of administration optimum dosages and galenic forms can be determined by the criteria known in the art taken into account the seriousness of the general condition of the mammal, the tolerance of the treatment and the side effects.

[0165] The present invention also relates to a method of treating or preventing bacillary dysentery in a human or mammal in need of such treatment. This method comprises administering to a mammal in need of such treatment a pharmaceutically effective amount of a modulating compound which binds to a targeted Shigella protein. In a preferred embodiment, the modulating compound is a polynucleotide which may be placed under the control of a regulatory sequence which is functional in the mammal or human.

[0166] In yet another embodiment, the present invention relates to a pharmaceutical composition comprising a SID® polypeptide, a fragment or variant thereof. The SID® polypeptide, fragment or variant thereof can be used in a pharmaceutical composition provided that it is endowed with highly specific binding properties to a bait polypeptide of interest.

[0167] The original properties of the SID® polypeptide or variants thereof interfere with the naturally occurring interaction between a first protein and a second protein within the cells of the organism. Thus, the SID® polypeptide binds specifically to either the first polypeptide or the second polypeptide.

[0168] Therefore, the SID® polypeptides of the present invention or variants thereof interfere with protein-protein interactions between *Shigella* or *Escherichia* polypeptides or between a mammal polypeptide.

[0169] Thus, the present invention relates to a pharmaceutical composition comprising a pharmaceutically acceptable amount of a SID® polypeptide or variant thereof, provided that the variant has the above-mentioned two characteristics; i.e., that it is endowed with highly specific binding properties to a bait polypeptide of interest and is devoid of biological activity of the naturally occurring protein.

[0170] In yet another embodiment, the present invention relates to a pharmaceutical composition comprising a pharmaceutically effective amount of a polynucleotide encoding a SID® polypeptide or a variant thereof wherein the polynucleotide is placed under the control of an appropriate regulatory sequence. Appropriate regulatory sequences that are used are polynucleotide sequences derived from promoter elements and the like.

[0171] Polynucleotides that can be used in the pharmaceutical composition of the present invention include the nucleotide sequences of SID®s of SEQ ID Nos. 15 to 215.

[0172] Besides the SID® polypeptides and polynucleotides, the pharmaceutical composition of the present invention can also include a recombinant expression vector comprising the polynucleotide encoding the SID® polypeptide, fragment or variant thereof.

[0173] The above described pharmaceutical compositions can be administered by any route such as orally, systemically, intravenously, intramuscularly, intradermally, mucosally, encapsulated, using a patch and the like. Any pharmaceutically acceptable carrier or adjuvant can be used in this pharmaceutical composition.

[0174] The SID® polypeptides as active ingredients will be preferably in a soluble form combined with a pharmaceutically acceptable carrier. The techniques for formulating and administering these compounds can be found in "*Remington's Pharmaceutical Sciences*" *supra*.

[0175] The amount of pharmaceutically acceptable SID® polypeptides can be determined as described above for the modulating compounds using cell culture and animal models.

[0176] Such compounds can be used in a pharmaceutical composition to treat or prevent bacillary dysentery.

[0177] Thus, the present invention also relates to a method of preventing or treating bacillary dysentery in a mammal said method comprising the steps of administering to a

mammal in need of such treatment a pharmaceutically effective amount of a recombinant expression vector comprising a polynucleotide encoding a SID® polypeptide which binds to a either to a *Shigella flexneri* protein or to a human placenta protein involved in a protein-protein interaction between a *Shigella flexneri* protein and an human placenta protein. More specifically, the present invention relates to a method of preventing or treating bacillary dysentery in a mammal said method comprising the steps of administering to a mammal in need of such treatment a pharmaceutically effective amount of:

- (1) a SID® polypeptide of SEQ ID Nos. 216 to 416 or a variant thereof which binds to a targeted *Shigella flexneri* protein or human placenta protein; or
- (2) a SID® polynucleotide encoding a SID® polypeptide of SEQ ID Nos. 15 to 215 or a variant or a fragment thereof wherein said polynucleotide is placed under the control of a regulatory sequence which is functional in said mammal; or
- (3) a recombinant expression vector comprising a polynucleotide encoding a SID® polypeptide which binds either to a *Shigella flexneri* protein or to a human placenta protein involved in a protein-protein interaction between a *Shigella flexneri* protein and an human placenta protein.

[0178] In another embodiment the present invention nucleic acids comprising a sequence of SEQ ID Nos. 15 to 215 which encodes the protein of sequence SEQ ID Nos. 216 to 416 and/or functional derivatives thereof are administered to modulate complex (from Table II) function by way of gene therapy. Any of the methodologies relating to gene therapy available within the art may be used in the practice of the present invention such as those described by Goldspiel et al *Clin. Pharm.* **12** pgs. 488-505 (1993).

[0179] Delivery of the therapeutic nucleic acid into a patient may be direct *in vivo* gene therapy (i.e., the patient is directly exposed to the nucleic acid or nucleic acid-containing vector) or indirect *ex vivo* gene therapy (i.e., cells are first transformed with the nucleic acid *in vitro* and then transplanted into the patient).

[0180] For example for *in vivo* gene therapy, an expression vector containing the nucleic acid is administered in such a manner that it becomes intracellular; i.e., by infection using a defective or attenuated retroviral or other viral vectors as described, for example in U.S. Patent 4,980,286 or by Robbins et al, *Pharmacol. Ther.* , **80** No. 1 pgs. 35-47 (1998).

[0181] The various retroviral vectors that are known in the art are such as those described in Miller et al, *Meth. Enzymol.* **217** pgs. 581-599 (1993) which have been modified to delete those retroviral sequences which are not required for packaging of the viral genome and subsequent integration into host cell DNA. Also adenoviral vectors can be used which are advantageous due to their ability to infect non-dividing cells and such high-capacity adenoviral vectors are described in Kochanek, *Human Gene Therapy*, **10**, pgs. 2451-2459 (1999). Chimeric viral vectors that can be used are those described by Reynolds

et al, *Molecular Medecine Today*, pgs. 25 -31 (1999). Hybrid vectors can also be used and are described by Jacoby et al, *Gene Therapy*, 4, pgs. 1282-1283 (1997).

[0182] Direct injection of naked DNA or through the use of microparticle bombardment (e.g., Gene Gun®; Biolistic, Dupont). or by coating it with lipids can also be used in gene therapy. Cell-surface receptors/transfecting agents or through encapsulation in liposomes, microparticles or microcapsules or by administering the nucleic acid in linkage to a peptide which is known to enter the nucleus or by administering it in linkage to a ligand predisposed to receptor-mediated endocytosis (See, Wu & Wu, J. Biol. Chem., 262 pgs. 4429-4432 (1987)) can be used to target cell types which specifically express the receptors of interest.

[0183] In another embodiment a nucleic acid ligand compound may be produced in which the ligand comprises a fusogenic viral peptide designed so as to disrupt endosomes, thus allowing the nucleic acid to avoid subsequent lysosomal degradation. The nucleic acid may be targeted *in vivo* for cell specific endocytosis and expression by targeting a specific receptor such as that described in WO92/06180, WO93/14188 and WO 93/20221. Alternatively the nucleic acid may be introduced intracellularly and incorporated within the host cell genome for expression by homologous recombination. See, Zijlstra et al, *Nature*, 342, pgs. 435-428 (1989).

[0184] In *ex vivo* gene a gene is transferred into cells *in vitro* using tissue culture and the cells are delivered to the patient by various methods such as injecting subcutaneously, application of the cells into a skin graft and the intravenous injection of recombinant blood cells such as hematopoietic stem or progenitor cells.

[0185] Cells into which a nucleic acid can be introduced for the purposes of gene therapy include, for example, epithelial cells, endothelial cells, keratinocytes, fibroblasts, muscle cells, hepatocytes and blood cells. The blood cells that can be used include, for example, T-lymphocytes, B-lymphocytes, monocytes, macrophages, neutrophils, eosinophils, megakaryocytes, granulocytes, hematopoietic cells or progenitor cells and the like.

[0186] In yet another embodiment the present invention relates to protein chips or protein microarrays. It is well known in the art that microarrays can contain more than 10,000 spots of a protein that can be robotically deposited on a surface of a glass slide or nylon filter. The proteins attach covalently to the slide surface, yet retain their ability to interact with other proteins or small molecules in solution. In some instances the protein samples can be made to adhere to glass slides by coating the slides with an aldehyde-containing reagent that attaches to primary amines. A process for creating microarrays is described, for example by MacBeath and Schreiber in *Science*, Volume 289, Number 5485, pgs. 1760-1763 (2000) or Service, *Science*, Vol, 289, Number 5485 pg. 1673 (2000). An

apparatus for controlling, dispensing and measuring small quantities of fluid is described, for example, in U.S. Patent No. 6,112,605.

[0187] The present invention also provides a record of protein-protein interactions, PIM®'s, SID®'s and any data encompassed in the following Tables. It will be appreciated that this record can be provided in paper or electronic or digital form.

[0188] In order to fully illustrate the present invention and advantages thereof, the following specific examples are given, it being understood that the same are intended only as illustrative and in no way limitative.

EXAMPLES

EXAMPLE 1: Preparation of a collection of random-primed cDNA fragments

1.A. Collection preparation and transformation in Escherichia coli

1.A.1. Random-primed cDNA fragment preparation

[0189] For the human placenta mRNA sample, random-primed cDNA was prepared from 5 µg of polyA⁺ mRNA using a TimeSaver cDNA Synthesis Kit (Amersham Pharmacia Biotech) and with 5 µg of random N9-mers according to the manufacturer's instructions. Following phenolic extraction, the cDNA was precipitated and resuspended in water. The resuspended cDNA was phosphorylated by incubating in the presence of T4 DNA Kinase (Biolabs) and ATP for 30 minutes at 37°C. The resulting phosphorylated cDNA was then purified over a separation column (Chromaspin TE 400, Clontech), according to the manufacturer's protocol.

1.A.2. Ligation of linkers to blunt-ended cDNA

Oligonucleotide HGX931 (5' end phosphorylated) 1 µg/µl and HGX932 1 µg/µl.

Sequence of the oligo HGX931: 5'-GGGCCACGAA-3' (SEQ ID NO. 417)

Sequence of the oligo HGX932 : 5'-TTCGTGGCCCCCTG-3' (SEQ ID NO. 418)

[0190] Linkers were preincubated (5 minutes at 95°C, 10 minutes at 68°C, 15 minutes at 42°C) then cooled down at room temperature and ligated with cDNA fragments at 16°C overnight.

[0191] Linkers were removed on a separation column (Chromaspin TE 400, Clontech), according to the manufacturer's protocol.

1.A.3. Vector preparation

[0192] Plasmid pP6 (see Figure 10) was prepared by replacing the *Spell/XhoI* fragment of pGAD3S2X with the double-stranded oligonucleotide:

5'CTAGCCATGGCCGCAGGGGCCGCGGCCGCACTAGTGGGGATCCTTAATTAAAGGGC
CACTGGGGCCCCC

GGTACCGGCGTCCCCGGCGCCGGCGTGATCACCCCTAGGAATTAATTTCCCGGTGAC
CCCGGGGGAGCT 3' (SEQ ID NO. 419)

[0193] The pP6 vector was successively digested with *Sfi*I and *Bam*HI restriction enzymes (Biolabs) for 1 hour at 37°C, extracted, precipitated and resuspended in water. Digested plasmid vector backbones were purified on a separation column (Chromaspin TE 400, Clontech), according to the manufacturer's protocol.

1.A.4. Ligation between vector and insert of cDNA

[0194] The prepared vector was ligated overnight at 15°C with the blunt-ended cDNA described in section 2 using T4 DNA ligase (Biolabs). The DNA was then precipitated and resuspended in water.

1.A.5. Library transformation in *Escherichia coli*

[0195] The DNA from section 1.A.4 was transformed into Electromax DH10B electrocompetent cells (Gibco BRL) with a Cell Porator apparatus (Gibco BRL). 1 ml SOC medium was added and the transformed cells were incubated at 37°C for 1 hour. 9 mls of SOC medium per tube was added and the cells were plated on LB+ampicillin medium. The colonies were scraped with liquid LB medium, aliquoted and frozen at -80°C.

[0196] The obtained collection of recombinant cell clones is named HGXBPLARP1.

1.B. Collection transformation in *Saccharomyces cerevisiae*

[0197] The *Saccharomyces cerevisiae* strain (Y187 (MAT α Gal4 Δ Gal80 Δ ade2-101, his3, leu2-3, -112, trp1-901, ura3-52 URA3::UASGAL1-LacZ Met)) was transformed with the cDNA library.

[0198] The plasmid DNA contained in *E. coli* were extracted (Qiagen) from aliquoted *E. coli* frozen cells (1.A.5.). *Saccharomyces cerevisiae* yeast Y187 in YPGlu were grown.

[0199] Yeast transformation was performed according to standard protocol (Giest et al. Yeast, 11, 355-360, 1995) using yeast carrier DNA (Clontech). This experiment leads to 10⁴ to 5 x 10⁴ cells/ μ g DNA. 2 x 10⁴ cells were spread on DO-Leu medium per plate. The cells were aliquoted into vials containing 1 ml of cells and frozen at -80°C.

[0200] The obtained collection of recombinant cell clones is named HGXYPLARP1 (placenta).

1.C. Construction of bait plasmids

[0201] For fusions of the bait protein (listed in Table II) to the DNA-binding domain of the GAL4 protein of *S. cerevisiae*, bait fragments were cloned into plasmid pB6. For fusions of the bait protein to the DNA-binding domain of the LexA protein of *E. coli*, bait fragments were cloned into plasmid pB20.

[0202] Plasmid pB6 (see Figure 3) was prepared by replacing the *Nco*I/*Sa*I polylinker fragment of pAS $\Delta\Delta$ with the double-stranded DNA fragment:

5'
CATGGCCGGACGGGCGCGGCCGCACTAGTGGGGATCCTTAATTAAAGGGCCACTGG
GGCCCCC 3' (SEQ ID NO. 420)

3'

CGGCCTGCCCGGCGCCGGCGTGATCACCCCTAGGAATTAATTTCCCGGTGACCCCGG
GGGAGCT 5' (SEQ ID NO. 421)

[0203] Plasmid pB20 (see Figure 6) was prepared by replacing the *EcoRI/PstI* polylinker fragment of pLex10 with the double-stranded DNA fragment:

5'

AATTCGGGGCCGGACGGGCGCGGCCGCACTAGTGGGGATCCTTAATTAAGGGCCAC
TGGGGCCCCTCGACCTGCA 3' (SEQ ID NO. 422)

3'

GCCCCGGCCTGCCCGGCGCCGGCGTGATCACCCCTAGGAATTAATTCCCGGTGACCC
CGGGGAGCTGG 5' (SEQ ID NO. 423)

[0204] The amplification of the bait ORF was obtained by PCR using the Pfu proof-reading *Taq* polymerase (Stratagene), 10 pmol of each specific amplification primer and 200 ng of plasmid DNA as template.

[0205] The PCR program was set up as follows :

94° 45"	
94° 45"	
48° 45"	x30 cycles
72° 6'	
72° 10'	
15° ∞	

[0206] The amplification was checked by agarose gel electrophoresis.

[0207] The PCR fragments were purified with Qiaquick column (Qiagen) according to the manufacturer's protocol.

[0208] Purified PCR fragments were digested with adequate restriction enzymes. The PCR fragments were purified with Qiaquick column (Qiagen) according to the manufacturer's protocol.

[0209] The digested PCR fragments were ligated into an adequately digested and dephosphorylated bait vector (pB6 or pB20) according to standard protocol (Sambrook *et al.*) and were transformed into competent bacterial cells. The cells were grown, the DNA extracted and the plasmid was sequenced.

Example 2 : Screening the collection with the two-hybrid in yeast system

2.A. The mating protocol

[0210] The mating two-hybrid in yeast system (as described by Legrain *et al.*, *Nature Genetics*, vol. 16, 277-282 (1997), *Toward a functional analysis of the yeast genome through*

exhaustive two-hybrid screens) was used for its advantages but one could also screen the cDNA collection in classical two-hybrid system as described in Fields *et al.* or in a yeast reverse two-hybrid system.

[0211] The mating procedure allows a direct selection on selective plates because the two fusion proteins are already produced in the parental cells. No replica plating is required.

[0212] This protocol was written for the use of the library transformed into the Y187 strain.

[0213] For bait proteins fused to the DNA-binding domain of GAL4, bait-encoding plasmids were first transformed into *S. cerevisiae* (CG1945 strain (MATa Gal4-542 Gal180-538 ade2-101 his3 Δ 200, leu2-3,112, trp1-901, ura3-52, lys2-801, URA3::GAL4 17mers (X3)-CyC1TATA-LacZ, LYS2::GAL1UAS-GAL1TATA-HIS3 CYH^R)) according to step 1.B. and spread on DO-Trp medium.

[0214] For bait proteins fused to the DNA-binding domain of LexA, bait-encoding plasmids were first transformed into *S. cerevisiae* (L40 Δ gal4 strain (MATa ade2, trp1-901, leu2 3,112, lys2-801, his3 Δ 200, LYS2::(*lexAop*)₄-HIS3, ura3-52::URA3 (*lexAop*)₈-LacZ, GAL4::Kan^R)) according to step 1.B. and spread on DO-Trp medium.

Day 1, morning : preculture

[0215] The cells carrying the bait plasmid obtained at step 1.C. were precultured in 20 ml DO-Trp medium and grown at 30°C with vigorous agitation.

Day 1, late afternoon : culture

[0216] The OD_{600nm} of the DO-Trp pre-culture of cells carrying the bait plasmid pre-culture was measured. The OD_{600nm} must lie between 0.1 and 0.5 in order to correspond to a linear measurement. 50 ml DO-Trp at OD_{600nm} 0.006/ml was inoculated and grown overnight at 30°C with vigorous agitation.

Day 2 : mating

medium and plates

1 YPGlu 15cm plate

50 ml tube with 13 ml DO-Leu-Trp-His

100 ml flask with 5 ml of YPGlu

8 DO-Leu-Trp-His plates

2 DO-Leu plates

2 DO-Trp plates

2 DO-Leu-Trp plates

[0217] The OD_{600nm} of the DO-Trp culture was measured. It should be around 1.

[0218] For the mating, twice as many bait cells as library cells were used. To get a good mating efficiency, one must collect the cells at 10⁸ cells per cm².

[0219] The amount of bait culture (in ml) that makes up 50 OD_{600nm} units for the mating with the prey library was estimated.

[0220] A vial containing the HGXYCDNA1 library was thawed slowly on ice. 1.0ml of the vial was added to 5 ml YPGlu. Those cells were recovered at 30°C, under gentle agitation for 10 minutes.

Mating

[0221] The 50 OD_{600nm} units of bait culture was placed into a 50 ml falcon tube.

[0222] The HGXYCDNA1 library culture was added to the bait culture, then centrifuged, the supernatant discarded and resuspended in 1.6ml YPGlu medium.

[0223] The cells were distributed onto two 15cm YPGlu plates with glass beads. The cells were spread by shaking the plates. The plate cells-up at 30°C for 4h30min were incubated.

Collection of mated cells

[0224] The plates were washed and rinsed with 6ml and 7ml respectively of DO-Leu-Trp-His. Two parallel serial ten-fold dilutions were performed in 500µl DO-Leu-Trp-His up to 1/10,000. 50µl of each 1/10000 dilution was spread onto DO-Leu and DO-trp plates and 50µl of each 1/1000 dilution onto DO-Leu-Trp plates. 22.4ml of collected cells were spread in 400µl aliquots on DO-Leu-Trp-His+Tet plates.

Day 4

[0225] Clones that were able to grow on DO-Leu-Trp-His+Tetracyclin were then selected. This medium allows one to isolate diploid clones presenting an interaction.

[0226] The His⁺ colonies were counted on control plates.

[0227] The number of His⁺ cell clones will define which protocol is to be processed :

[0228] Upon 60.10⁶ Trp+Leu+ colonies :

- if the number His⁺ cell clones <285 : then use the process luminometry protocol on all colonies
- if the number of His⁺ cell clones > 285 and <5000: then process via overlay and then luminometry protocols on blue colonies (2.B and 2.C).
- if number of His⁺ cell clones >5000 : repeat screen using DO-Leu-Trp-His+Tetracyclin plates containing 3-aminotriazol.

2.B. The X-Gal overlay assay

[0229] The X-Gal overlay assay was performed directly on the selective medium plates after scoring the number of His⁺ colonies.

Materials

[0230] A waterbath was set up. The water temperature should be 50°C.

0.5 M Na₂HPO₄ pH 7.5.

1.2% Bacto-agar.

2% X-Gal in DMF.

Overlay mixture : 0.25 M Na_2HPO_4 pH7.5, 0.5% agar, 0.1% SDS, 7% DMF (LABOSI), 0.04% X-Gal (ICN). For each plate, 10 ml overlay mixture are needed.

DO-Leu-Trp-His plates.

Sterile toothpicks.

Experiment

[0231] The temperature of the overlay mix should be between 45°C and 50°C. The overlay-mix was poured over the plates in portions of 10 ml. When the top layer was settled, they were collected. The plates were incubated overlay-up at 30°C and the time was noted. Blue colonies were checked for regularly. If no blue colony appeared, overnight incubation was performed. Using a pen the number of positives was marked. The positives colonies were streaked on fresh DO-Leu-Trp-His plates with a sterile toothpick.

2.C. The luminometry assay

[0232] His⁺ colonies were grown overnight at 30°C in microtiter plates containing DO-Leu-Trp-His+Tetracyclin medium with shaking. The day after, the overnight culture was diluted 15 times into a new microtiter plate containing the same medium and was incubated for 5 hours at 30°C with shaking. The samples were diluted 5 times and read OD_{600nm}. The samples were diluted again to obtain between 10,000 and 75,000 yeast cells/well in 100 µl final volume.

[0233] Per well, 76 µl of One Step Yeast Lysis Buffer (Tropix) was added, 20 µl SapphireII Enhancer (Tropix), 4 µl Galacton Star (Tropix) and incubated 40 minutes at 30°C. The β-Gal read-out (L) was measured using a Luminometer (Trilux, Wallach). The value of (OD_{600nm} × L) was calculated and interacting preys having the highest values were selected.

[0234] At this step of the protocol, diploid cell clones presenting interaction were isolated. The next step was now to identify polypeptides involved in the selected interactions. Example 3 : Identification of positive clones

3.A. PCR on yeast colonies

Introduction

[0235] PCR amplification of fragments of plasmid DNA directly on yeast colonies is a quick and efficient procedure to identify sequences cloned into this plasmid. It is directly derived from

[0236] a published protocol (Wang H. et al., *Analytical Biochemistry*, **237**, 145-146, (1996)). However, it is not a standardized protocol and it varies from strain to strain and it is dependent of experimental conditions (number of cells, *Taq* polymerase source, etc). This protocol should be optimized to specific local conditions.

Materials

[0237] For 1 well, PCR mix composition was :

32.5 µl water,

5 µl 10X PCR buffer (Pharmacia),

1 µl dNTP 10 mM,

0.5 µl *Taq* polymerase (5u/µl) (Pharmacia),

0.5 µl oligonucleotide ABS1 10 pmole/µl: 5'-GCGTTTGAATCACTACAGG-3', (SEQ ID NO. 424)

0.5 µl oligonucleotide ABS2 10 pmole/µl: 5'-CACGATGCACGTTGAAGTG-3'. (SEQ ID NO. 425)

1 N NaOH.

Experiment

[0238] The positive colonies were grown overnight at 30°C on a 96 well cell culture cluster (Costar), containing 150 µl DO-Leu-Trp-His+Tetracyclin with shaking. The culture was resuspended and 100 µl was transferred immediately on a Thermowell 96 (Costar) and centrifuged for 5 minutes at 4,000 rpm at room temperature. The supernatant was removed. 5 µl NaOH was added to each well and shaken for 1 minute.

[0239] The Thermowell was placed in the thermocycler (GeneAmp 9700, Perkin Elmer) for 5 minutes at 99.9°C and then 10 minutes at 4°C. In each well, the PCR mix was added and shaken well.

[0240] The PCR program was set up as followed :

94°C	3 minutes	x 35 cycles
94°C	30 seconds	
53°C	1 minute 30 seconds	
72°C	3 minutes	
72°C	5 minutes	
15°C	∞	

[0241] The quality, the quantity and the length of the PCR fragment was checked on an agarose gel. The length of the cloned fragment was the estimated length of the PCR fragment minus 300 base pairs that corresponded to the amplified flanking plasmid sequences.

[0242] 3.B. Plasmids rescue from yeast by electroporation

Introduction

[0243] The previous protocol of PCR on yeast cell may not be successful, in such a case, plasmids from yeast by electroporation can be rescued. This experiment allows the recovery of prey plasmids from yeast cells by transformation of *E. coli* with a yeast cellular extract. The prey plasmid can then be amplified and the cloned fragment can be sequenced.

Materials

[0244] Plasmid rescue

Glass beads 425-600 μm (Sigma) Phenol/chloroform (1/1) premixed with isoamyl alcohol (Amresco)

Extraction buffer : 2% Triton X100, 1% SDS, 100 mM NaCl, 10 mM TrisHCl pH 8.0, 1 mM EDTA pH 8.0.

Mix ethanol/ NH_4Ac : 6 volumes ethanol with 7.5 M NH_4 Acetate, 70% Ethanol and yeast cells in patches on plates.

Electroporation

SOC medium

M9 medium

Selective plates : M9-Leu+Ampicillin

2 mm electroporation cuvettes (Eurogentech)

Experiment

Plasmid rescue

[0245] The cell patch on DO-Leu-Trp-His was prepared with the cell culture of section 2.C. The cell of each patch was scraped into an Eppendorf tube, 300 μl of glass beads was added in each tube, then, 200 μl extraction buffer and 200 μl phenol:chloroform:isoamyl alcohol (25:24:1) was added.

[0246] The tubes were centrifuged for 10 minutes at 15,000 rpm.

[0247] 180 μl supernatant was transferred to a sterile Eppendorf tube and 500 μl each of ethanol/ NH_4Ac was added and the tubes were vortexed. The tubes were centrifuged for 15 minutes at 15,000 rpm at 4°C. The pellet was washed with 200 μl 70% ethanol and the ethanol was removed and the pellet was dried. The pellet was resuspended in 10 μl water. Extracts were stored at -20°C.

Electroporation

Materials :

[0248] Electrocompetent MC1066 cells prepared according to standard protocols (Sambrook et al. *supra*).

1 μl of yeast plasmid DNA-extract was added to a pre-chilled Eppendorf tube, and kept on ice.

1 μl plasmid yeast DNA-extract sample was mixed and 20 μl electrocompetent cells was added and transferred in a cold electroporation cuvette. Set the Biorad electroporator on 200 ohms resistance, 25 μF capacity; 2.5 kV. Place the cuvette in the cuvette holder and electroporate.

1 ml of SOC was added into the cuvette and the cell-mix was transferred into a sterile Eppendorf tube. The cells were recovered for 30 minutes at 37°C, then spun down for

1 minute at 4,000 x g and the supernatant was poured off. About 100 µl medium was kept and used to resuspend the cells and spread them on selective plates (e.g., M9-Leu plates). The plates were then incubated for 36 hours at 37°C.

[0249] One colony was grown and the plasmids were extracted. Check for the presence and size of the insert through enzymatic digestion and agarose gel electrophoresis. The insert was then sequenced.

Example 4 : Protein-protein interaction

[0250] For each bait, the previous protocol leads to the identification of prey polynucleotide sequences. Using a suitable software program (e.g., Blastwun, available on the Internet site of the University of Washington : <http://bioweb.pasteur.fr/seqanal/interfaces/blastwu.html>) the identity of the mRNA transcript that is encoded by the prey fragment may be determined and whether the fusion protein encoded is in the same open reading frame of translation as the predicted protein or not.

[0251] Alternatively, prey nucleotide sequences can be compared with one another and those which share identity over a significant region (60nt) can be grouped together to form a contiguous sequence (Contig) whose identity can be ascertained in the same manner as for individual prey fragments described above.

Example 5 : Identification of SID®

[0252] By comparing and selecting the intersection of all isolated fragments that are included in the same polypeptide, one can define the Selected Interacting Domain (SID®) as illustrated in Figure 15. The SID® is illustrated in Table III .

Example 6 : Identification of PIM®

[0253] The PIM® is then constructed using methods known in the art as exemplified in Figure 16.

Example 7 : Making of polyclonal and monoclonal antibodies

[0254] The protein-protein complex of columns 1 and 3 of Table II was injected into mice and polyclonal and monoclonal antibodies were made following the procedure set forth in Sambrook et al. (*supra*).

[0255] More specifically, mice are immunized with an immunogen comprising Table II complexes conjugated to keyhole limpet hemocyanin using glutaraldehyde or EDC as is well known in the art. The complexes can also be stabilized by crosslinking as described in WO 00/37483. The immunogen is then mixed with an adjuvant. Each mouse receives four injections of 10 ug to 100 ug of immunogen, and after the fourth injection, blood samples are taken from the mice to determine if the serum contains antibodies to the immunogen. Serum titer is determined by ELISA or RIA. Mice with sera indicating the presence of antibody to the immunogen are selected for hybridoma production.

[0256] Spleens are removed from immune mice and single-cell suspension is prepared (Harlow et al 1988). Cell fusions are performed essentially as described by Kohler et al (1976). Briefly, P365.3 myeloma cells (ATTC Rockville, Md) or NS-1 myeloma cells are fused with spleen cells using polyethylene glycol as described by Harlow et al (1989). Cells are plated at a density of 2×10^5 cells/well in 96-well tissue culture plates. Individual wells are examined for growth and the supernatants of wells with growth are tested for the presence of the complex-specific antibodies by ELISA or RIA using one of the proteins set forth in Table II as a target protein. Cells in positive wells are expanded and subcloned to establish and confirm monoclonality.

[0257] Clones with the desired specificities are expanded and grown as ascites in mice or in a hollow fiber system to produce sufficient quantities of antibodies for characterization and assay development. Antibodies are tested for binding to one of the proteins in Table II, to determine which are specific for the Table II complexes as opposed to those that bind to the individual proteins. More specifically, antibodies are tested for binding to bait polypeptide of column 1 of Table II alone or to prey polypeptide of column 3 of Table II alone, to determine which are specific for the protein-protein complex of columns 1 and 3 of Table II as opposed to those that bind to the individual proteins.

[0258] Monoclonal antibodies against each of the complexes set forth in columns 1 and 3 of Table II are prepared in a similar manner by mixing specified proteins together, immunizing an animal, fusing spleen cells with myeloma cells and isolating clones which produce antibodies specific for the protein complex, but not for individual proteins.

Example 8: Modulating compounds/PIM screening

[0259] Each specific protein-protein complex of columns 1 and 3 of Table II may be used to screen for modulating compounds.

[0260] One appropriate construction for this modulating compound screening may be:

- bait polynucleotide inserted in pB6 or pB20;- prey polynucleotide inserted in pP6;
- transformation of these two vectors in a permeable yeast cell;
- growth of the transformed yeast cell on medium containing compound to be tested;
- and observation of the growth of the yeast cells.

[0261] The following results obtained from these Examples, as well as the teachings in the specification are set forth in the Tables below.

[0262] While the invention has been described in terms of the various preferred embodiments, the skilled artisan will appreciate that various modifications, substitutions, omissions and changes may be made without departing from the scope thereof. Accordingly, it is intended that the present invention be limited by the scope of the following claims, including equivalents thereof.

[0263] All patent and non-patent publications cited in this specification, including the websites set forth on pages 8, 13 and 33, are indicative of the level of skill of those skilled in the art to which this invention pertains. All these publications and patent applications are herein incorporated by reference to the same extent as if each individual publication or patent application was specifically and individually indicated to be incorporated herein by reference.

10043487, 011102

Table I : Bait sequences

1: Bait name	2: Nucleic acid ID No.	3: Nucleic acid sequence	4: Nucleic Positions	5: Amino acid ID No.	6: Amino-acid Sequence
Shigella ospB	1	ATGAATTTAGATGGTGTAGACCATACTGTAGAATAGTCAATAAAAAAGAAATGAAAGCATATCAGAT ATTGCATTTGCACATATAATAAAAAAGGTAATAATTCATCATGTACTACCCAAAGCAGCATTG GTTTTTTAGAGAGAAAGTTTTGTGATAGCAATGATGTTCTATCTATTATGGACAAACAATA CCAAGAGTATTTAAGAACAAAGATGTTATATGATTATGTTTTTAAAAATGAAAAAGTAAAAATGATT TTCTAAAAATGGCTGAATCATGGCTACACAGAGTGAACCAATAGTAATAATAATGATGATGAC GCATTGAATGCTGCTGCTTATTTTCTGTAATAAAAGCGAAAAATAAAAACAGTAAACGATACCTGAT TTTAAAGAGTATAATAAGGTTTATCTTGGCACGGTAGTCTGCTGTTCTCATCAATTAGGCCTT GGTTCGGAACCTATTGATGTACAAACAATCATTTCAAGAAATGAAGAGCTGTGGTATTCTAAATGTG AAAGATATCCGTTTTACTTCATCGGGCTCCGCTGATGAAGTGGCTCTCTAAAAATTTTAAACAATGC CCCTGCTGAAAGTCTTTCTGTATCCTTAACCTCTGCTGCTTTTTTAAAGGAAAAAGAAATCTTTGCT AGAGCAGATAAAAAACACCTTGAAACGATGAGTCATTGAGTGATGGTCTAAAAATATCCGGCT ATCATGGATATGGATTCACCTATGGTCAAGAGCTTTTCCCTACTCACATTATCGTTCAACTTCAA TTCCCTGCTGATCCGGAGCATACAGTAAAAAGAGCTCTCAGAAAAAGACTTTTATTATTAAATAAG AACTGGATTAGTATAAAATTTTAACTATAG	[1-888]	8	MNLGVRPYPYCRIVNKNKNEIS DIAFAHIKRVKNSSCCTHPKAAAL VFLGEGKGFCDSDNVLMSGQQ IPRVFNKMLDYVYFKNEKSK NDFLKMAESWLPQSEPIVIN DDDALNAAAAYFSVKKAKIKTV NDTDFKEYNKVYILGHGSPGS HQLGLSELIDVQTIISRMKDC GILNVKDIRFTSCGSADKVAPK NFNAPAESLSCILNSLPFFKE KESLEQIKKHLNDESLSDGL KISGYHGYGVHYQELFPYSH YRSTSIAPADPEHTVKRSSQKK TFINKELD*YKIFNL*
Shigella ospD1	2	ATGTCAATAATAACTATGGATTACATCCAGCAACAAACAAAATATGCACCTAATAATAGGCAGC AATACTGCTAATGAAATTAAGGAATGAAAAATATATCATTAACGTGACAAATACCGCTATATCC CACGCCATCAATGAAGAAAAATCAGGGGGGGGATAGTGGTGTCTTTTCAGAAAAATGGCCA AAATACAGAACATATCCATCCGACAAAGAAATAATAGGAGTAAACCGCCATAAATTTGTTTTCAT TGATTTGGCATGAAATGCCGATGCAGCGCGTAATAACAGTGAATCGCTGTTGGCAGCCGAAAT ACCCAAAGAGGAAAAACTAGAAAGTCTTGACGACCGAAATATGCTGGGGAATCTGCTTTGTTCA TAGCTCTTCAAGAAGGTCAATCCGCTGCGATTCAAGCTTATGGAGATTTTATAAATCTTTGATT TATCACCAAAAGAAACGATTAACTATTGGATGTAAGAGATAATGAGGGGTACCGAGGATTATTT CTGGCCGAGGAAAGGGAATATCGAGGCTATGATGGCATATATAATATATGCCATCATAGTG GGATAAACTTACAGAAATAGCAGACAGACTTAAACAATAATGAACAAGACATGTTTAAATATTAT CTGACAAAAATACAAGAGTTGTTTTAAGTGTGCTAAATAGCTGCAAGAAATGCACTTAG	[1-711]	9	MSINNYGLHPANNKNMHLIGS NTANENKGMKNINIINVTNTAIS HAINEEKSGGGYGVSVFRKLA KIQNISPTKNKNEYNRHNLFS LIWHGNADAARKYSESLAAEI PKEEKLEVLAAARNNAGESALFI ALQEGHSAAIQAYGDFIKTFDL SPKETIKLLDVRDNEGLPGLFI AAGKGNIEAMMAYINICHHS KLTEIADRLNNEQDMFNISD KIQELF*VC*IAAKNCT*
Shigella ospC1	3	ATGAATATATCAGAAACACTGAACCTAGCAAAATACCAATACCAATATAGATTCTATGGATAACAGA TTACATACATTGTTTCCAAAAGTGACATCAGTGCAGAAACGCTGCACAAACAACTATGCCAGATGA AAAAAATTTAAAAGATAGTGCAAAATATTATTAAGATTCTTTAGGAAAACTATAGCAGCACAGAG TTATAGTAGAATGTTCTCAAGGCTCTAACTTTAAATCTTTAAATATAGCAATTGATGCACCATCA GACGCTAAAGCCTCATTTAAGGCTATTGAGCACCTTGACAGATTATCGAAGCATTATATATCTGA AATAAGGGAAAAACTTCATCCCTCTTTCTGCAGAGGAACCTCAATTTGCTTTCGCTAATTATTAATTC TGATTTAATCTTCAGACATCAAAGTAATCTGATTTGTCTGATAAAATTTTAAACATTAAGTCATTC	[1-1434]	10	MNISELTNSANTQCNIDSMND RLHTLFPKVTSVRNAAQQTMP DEKNLKDSANIKNDFRKTIAA QSYSRMFSQGSNFKSLNIAID APSDAKASFKAIEHLDRLSKHY ISEIREKLHPLSAFEELNLLSLIN SDLIFRHQSNDSLSDKILNIKSF

		AATAAAATTCAGTCTGAAGGAATATGCACAAAACGAAACACACATACGCTGATGATATAAAAAAATA GCTAATCATGACTTTGTGTTTTGGCGTTGAAATCTCTAACCATCAGAAAAAACACCCCTGAAT ACAAAACATCACACTGTTGATTTGGTGCAATGCGTATATCATGATGATGACTCTCCATATGGA TATATGACATTAACCGATCACCTTGATAATGCTATCCACCTGTTTTTACCATGAGCACCAATCA TTTTAGATAAATTTTCAGAGGTTAATAAAGAGTTAGTCGATACGTACATGGAAGTAAAGGAATT ATAGATGTACCAATATTCAATACTAAAGATATGAAGTTAGGCTCGGATTATACCTGATTGACTTT ATTAGAAAAAGTGAAGACCAAGCTTCAAGGAGTTTTGCTATGAAAAAATCTTGCCCTGTGGA TCTGGATAGAATCATAAACTTTGTTTTTACGCCAGAGTACCATATACCTAGGATGGAAGTACAG AAAACTTCAAAAAAGTTAAGATTAGAAAAATATCCTTAGAGAGGCTGTTACAGCATCTAATTACG AAGAAATTAACAAGCAGTCACTAACAAAAAATGCTCTCCAGGCTCTTTTCTTCGATTACTA ATCAAAAAGAGGATGTCGCCCTATATATATCTAATTTGAGATAACTAGACAAGATGTTATTTT CATAAAGCATGAGTTGTATGATATTGAGTATCTACTTAGCGCTCATATTAAGCTGTAAGTACT TGAGTATTTTATCAATAAGGAGTTGGTTGATGTAACACAAAGTCAAAAAAATTAAGTGGGA TTGTATGTTGGATAACGCAATAAATATGAGAAATGCAGAAATGATAAACTATTATTGAAATATGG TGCAACATCTGACAATAAATATATTAATCAAAATTGAATATCGTTAG			NKIQSEICTKRNTYADDIKIA NHDFVFFGVEISNHQKHPLN TKHHTVDFGANAYIDHSPY GYMTLTDHFDNAIPPVFYHEH QSFLDKFSEVNKEVSRYVHGS KGIDVPINTKMDKGLGLYLI DFIRKSEDSFKFCYGNLA PVDLDRIINFVQPEYHIPRMV STENFKVKIREISLEEAVTAS NYEINKQVTNKKIALQALFLSI TNQKEDVALYILSNFEITRQDY SIKHELVDIEYLLSAHNSCK LEYFINKGLVDVNTKFKKTNSG DCMLDNAIKYENAEIMIKLLKY GATSDNKYI*SKLNIV*
Shigella ipaD	4	ATGAATATAACAACCTGACTTAATAGTATTTCCACCTCATCATTCAGTCCAAACAATACCAACGGT TCATCAACCGAAACAGTTAATCTGATATAAAACAACGACCAGTCTCATCCTGTAAGTTCCTT ACTATGCTCAACGACACCTTCATATATCAGAAACAATACAGGCTTAAGAAAGAGCTTTC ACAAAAACGTTGACTAAACATCGCTAGAAAGAAATAGCATTAATCATCTCAGATTAGCATGG ATGTAATAAATCCGCTCAACTATTGGATATCTTTCCAGGAACGAATATCCAATTAATAAGACG CAAGAGAAATTAATACATTAGCCCCGAAAGAACGCGGCTTGTAGGAGTCAATATGATATCTCAT AGAGAACTGTGGCTAAATTTGAAACTCCATCAATGATATTAATGAACAGTATCTGAAAGTATAT GAACATGCCGTAGTTTCATATCTCAATGTATCAAGATTTTAGCGCTGTTCTTTCCAGTCTTGGC GGCTGGATCTCTCCGGAGGTACGACGGAACCTCCGTGAAATTAACAAGTCAACTCGCTTAAAA AGGCAATTGGAAGAACTCAAGGAAAAATATAAGATAAACCGCTATATCCAGCAAAATAACTGTT AGTCAGGAACAAGCAAAATAAATGGCTTACAGAATTAGGTGAACAATCGGCAAGGTATCTCAAAA AAACGGGGGATATGTTGTCAGTATAAACATGACCCCAATAGACAATATGTTAAAAAGCTTAGATA ATCTAGGTGGAATGGCGAGGTTGTGCTAGATAATGCAAAATATCAGGCATGGAATGCCGATT CTCTGCCGAAGATGAAACAATGAAAAATAATCTTCAAACTTTAGTTCAAAAATACAGTAATGCCAA TAGTATTTTGTATAATTTAGTAAAGGTTTTGAGTAGTACAATAAGCTCATGTACAGATACAGATAA ACTTTTCTCCATTTCTGAGGTGCG	[1-1005]	11	MNITLTNSISTSFSPNNTNG SSTETVNSDIKTSSHPVSSL TMLNDTLHNIRTTNQALKKELS QKTLTKTSLEEIALHSSQISMD VNKSAQLLDILSRNEYPIPKDA RELLHSAKPEAELDGDQMISH RELWAKIANSINDINEQYLKVY EHAVSSYTQMYQDFSAVLSSL AGWISPGGNDGNSVKLQVNS LKKALEELKEKYDKPLYPAN NTVSQEQANKWLTTELGGTIGK VSQKNGGYVVSINMTPIDNML KSLDNLGGNGEVWLDNAKYQ AWNAGFSAEDETMMKNLQTI VQKYSNANSIFDNLVKVLSST SSCTDCLKLFLHF*GA
Shigella ipaC	5	ATGTTGCAAAAAGCAATTTTGCAACAACACTACTGCTTGATACAAAATAGGAGAATGTTATGGAAAT CAAAACACAAAACCAACCCAGACTTTATACAGATATATCCACAAAACAACTCAAAAGTCTTCC GAAACACAAAAATCACAAAATTTACAGCAGATTGACGGCATATTCACCTTAATGTCGGTAAAAAT CCCGTATTAACAACCCACATTAATGATGATCAACTTTTAAAGTTATCAGAGCAGGTTCCAGCATGAT TCAGAAATCATGCTGCGCTTACTGACAAAAAGATGAAAGATCTTTTCAGAGATGAGTCAACACCT TACTCCAGAGAACAACCTGAGATATTTCCAGTCTTCTTCTTAATGCTGTTCTTTAATATTAGTGA GCCGTTCTACTTTCTGCTCTCGCACTGCAGAACTAAATGGGCTCTCAATTGTCATTGATTGC GTTCCGATGCTACAAAATCAGCTGCAGAGAACATTTGTCGGCAAGGCTGGCAGCCCTATCATCA	[1-1149]	12	MLKQFCNKLKLLDTNKENVME IQNTKPTQTLTYDISTKQTQSS SETQKSQYQQAIAHIPLNVG KNPVLTTLLNDDQLKLSEQV QHDSEIARLTDKMKMDLSEM SHTLTPENTLDISSLSNAVSLI ISVAVLLSALRTAETKLGSQLS LIAFDATKSAATENIVRQGLAAL

		AGCATTACTGGAGCAGTCACACAAGTAGGTATAACGGGTATCGGTGCCCAAAAAACGCATTGAG GGATTAGCGACCAAAAAAGGAGCCTTAAGAAAGAACCTTGCCACTGCTCAATCTCTTGA AAAAGA GCTTGAGGTTCTAATAGGGTTAATAACAAATAGATACAAATATCACCTCACCAAACTAA CTCTAGCACAAAATTTTAGGTAAAAATAAACTGGCCAGATAATATATCCCTGTCAACTGAACA TAAACTTCTCTTAGTCTCCGATATTTCTTGAGGATAAAATGACACCCAGAGAAGAACTTA CGAGCTCAATACCCCTTTCTGCGCAGCAAAACAAACATTTGGCGTGCAACATGGAACATCA GCCGTTGCTGGTAATATATCCACATCAGGAGGCGTTATGCATCTGCTTTGAAGAAGAAAC AACTAATCAGTCAGGCCAGCAGTAACACAGCAGAGGAAGCATCCCAAGTATCTAAAGAAGCATC CCAAGCGACAAATCAATTAAACAAAAATTTATGAATATAATTGACAGCATCAACCAATCAAGAA TTCCGCGAGCCAGTCAGATTGCTGTAACATTCGAGCTTAA	[1-102]	13	SSSITGAVTQVGTGIGAKKTH SGISDQKGA LRKLNLAQSL KELAGSKLGNKQIDTNTSPQ TNSSTKFLGKKNKLA PDNISLST EHKTSLSPPDISLQDKIDTQRR TYELNTLSAQKQKNGRATME TSVAGNISTSGGRYASALEE EEQLISQASSKQAEAEASQVSK EASQATNLIQKLLNIIDSINQS KNSAASQIAGNIRA*
Shigella ipaH9.8	6	ATGTTACCGATAAATAAATCTTTTCATTGCCCAAAATCTTTTATAACACTATTTCCGGTACAT ATGCTGATTACTTTTCAGCATGGGATAAATGGGAAAAACAAGCGCTCCCGTGAAGAGCGTGA TGAGGCTGTCTCCGACTTAAAGAAATGCTTATCAATAATCCGATGAACCTCGACTGGACCGTT TAAATCTGCTCCTCGCTACCTGACAACTTACCAGCTCAGATAACGCTCAATGTATCATATAATC AATTAACCTAACCTACCTGAACTGCCGTGTTACGCTAAAAAATTTATCCGCCAGCAATAAATAT CAGAAATGCCCGTGCTACCTCCTCGCTGGAGTCACTCAGGTACACACAAATGAGCTGGAAAA CCTGCCAGCTTACCCGATTCGTTATTGACTATGAATATCAGCTAAGCAATAGTCTCCTTACC ATCGCTCCACAGGCTCTTAAAAATCTCAGAGCGACCCGTAATTTCTCCTCAGCTACCCAGAT TTTCTGAGGGAATAATCCCGTTGTGAGAGATATTTTGTAGATAATCAGATAAGTCAATATCC CGAAAGCATCTTAATCTGAGGAATGAATGTTCAATACATATTAGTGAATACCCATATCATCCC ATGCTCTGAAGCCCTGCAAGATTAACCTCTCCCGGACTACCCAGGCCACGGATTTACTT CTCCATGAGTGACGGACAACAGATAACACTCCATCGCCCCCTGGCTGATGCCGTGACAGCATG GTTCCCGGAAAAACAACAACTCTGATGATACAGATATGGCATGCTTTTGAACATGAAGAGCATG CCAACACCTTTCCGGGTTCTTGACCGCTTCCGATACCGCTCTGACGCAATACCTCCGG ATTCGCTGAACAGGTCGCTGCATGGCTGGA AAAAATCAGTGCCTCTGCGGAGCTTCGACAGCA GTCTTTCCGCTGTTGCTGCTGATGCCACTGAGAGCTGTGAGGACCGTGT	[1-612]	14	MLPINNFSLPQNSFYNTISG YADYFSAWDKWEKQALPGEE RDEAVSRLKECLINNSDELRL DRLNSSLPDNLPAQITLLNVS YNQLNLPPLPALESQVQHNE KLSELPVLPALLESQVQHNE LENLPALPDSLLTMNISYNEIV SLPSLPQALKNLRA TRNFLT PAFSEGNPNVREYFFDRNQI SHIPESILNLRNECSIHSDNPL SSHALQALQRLTSSPDYHGPR IYFMSDGGQNTLHRPLADAV TAWFPENKQSDVSQIWHAFE HEEHANTFSAFLDRLSDTVSA RNTSGFREQVAAWLEKLSAS AELRQQSFVAADATESCEDR MKITSTIIQTTPFPENNNSHAGI VTEPILKLGQGGSTAEIFEDV NDSSALYKKYDLIGNQYNEIL MAWQESSELFNAFYGDEASVW QYGGDVYLRMLRVPGTPLSDI DTADIPDNIESLYLQICKLNEL SIHYDLNTGNMLYDKESSESLF PIDFRNIYAEYYAATKKDKI RRLQMRNTDFYSLNRRKYL*T YLLML*
Shigella ospG	7	ATGAAAATAACATCTACCATTTCAAAACACCTTTTCCATTTGAGATAATAATTTCTCATGCTGGCA TAGTAACGGAGCCCATCTCGGTAAGTTAATAGGTCAGGGTCGACAGCAGAAATCTTTGAAGA TGTGAATGATTCATCTGCTTTGTATAAAAAGTATGATCTATTGGCAACCCAGTACAAATGAGATTCT GGAATGGCTTGGCAAGAACTGAGCTTTTAAATGCTTTTATGGCGATGAAGCATCCGTTGTTA TACAGTATGGCGGAGATGTACCTCCGAATGCTGCGCGTGCCTGGACTCCCTTAGTGACAT TGATACAGCTGATATCCCTGATAATATAGAGAGCCCTTATCTACAGTTGATATGTAATTTGAATGA GTTGAGTAAATCCATTACGATCTTAATACAGGTAATATGCTGTATGATAAGAAAGTGAAAGTTT ATTCCTCAATAGATTTTCGCAATATTTATGCTGAATATTACGCTGCAACCAAAAAAGATAAAGAGAT TATCGACCGACGATTACAAATGCGTACAAATGATTTTTTATTCGTTATTAACAGGAAATATTTATA GACGTATTTGTGATGCTATAA			

Table II : Bait-prey interactions

1: Bait name	2: Bait	nucleic	3: Prey name
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	acid SEQ ID No.	
Shigella ospB	1	prev44074 (JM5; prev44078) hJM5
Shigella ospB	1	prev67804 (LOC91851) hhypothetical proteinXP_041083
Shigella ospB	1	prev67806
Shigella ospB	1	prev67810 (FBXO3 FBX3 DKFZp564B092 FBA) hFBXO3
Shigella ospB	1	prev5237 (NONO NRB54 NMT55 P54NRB) hNONO
Shigella ospB	1	prev67661 (CAPN2 CANPL2 CANPML) hCAPN2
Shigella ospB	1	prev34730 (LMO4; prev34731) hLMO4
Shigella ospB	1	prev33141 (ZIN; prev33142) hZIN
Shigella ospB	1	prev67575 (LOC136773) hsimilar to 3-HYDROXYISOBUTYRATE DEHYDROGENASE, MITOCHONDRIAL PRECURSOR (HIBADH) (H.sapiens)
Shigella ospB	1	prev67608 (MGC4126) hMGC4126
Shigella ospB	1	prev67637 (LOC90706) hhypothetical proteinXP_033663
Shigella ospB	1	prev12713 (LMO2 RBTNL1 RHOM2 TTG2 RBTN2; prev12714) hLMO2 hTTG-2a/RBTN-2a
Shigella ospB	1	prev67836 (MYO9A) hMYO9A
Shigella ospB	1	prev700 (RANBP9 RANBPM RANBP9-PENDING; prev701) hRANBP9 hRanBPM
Shigella ospB	1	prev67844
Shigella ospB	1	prev67853
Shigella ospB	1	prev66272 (FLJ20254) hFLJ20254
Shigella ospD1	2	prev700 (RANBP9 RANBPM RANBP9-PENDING; prev701) hRANBP9 hRanBPM
Shigella ospD1	2	prev2492 (FLJ11026; prev2493) hFLJ11026
Shigella ospD1	2	prev67651 putative homolog of prey064241 - Mouse
Shigella ospD1	2	prev67653 putative homolog of prey067652 -
Shigella ospD1	2	prev67667 (PACSIN2) hPACSIN2
Shigella ospD1	2	prev67657 hUnknown (protein forMGC:16824)
Shigella ospD1	2	prev67501 (LOC51667) hLOC51667
Shigella ospD1	2	prev67678 (LOC90410) hhypothetical proteinXP_031534
Shigella ospD1	2	prev67578 (LOC121052) hhypothetical proteinXP_035313
Shigella ospD1	2	prev67580 (DKFZp5861021) hDKFZp5861021
Shigella ospD1	2	prev3160 (KIF5B UKHC KNS KNS1 U-KHC KINH; prev3161) hKIF5B hkinesin heavychain
Shigella ospD1	2	prev50427 (KIAA0419; prev50428) hKIAA0419
Shigella ospD1	2	prev63765 (LIM; prev63767) hLIM
Shigella ospD1	2	prev67623 (LDB2 CLIM1) hLDB2
Shigella ospD1	2	prev7315 (LDB1 CLIM2 NLI; prev7316) hLDB1 hCLIM2
Shigella ospD1	2	prev67601 (ATIP1 KIAA1288 DKFZp586D1519 FLJ14295) hATIP1
Shigella ospD1	2	prev53735 (TLN1 TLN KIAA1027) hTLN1
Shigella ospD1	2	prev67630

Shigella ospD1	2	prey12665 (CREBL1 CREB-PP G13; prey12666) hCREBL1 hG13
Shigella ospD1	2	prey67631 (FLJ21742) hFLJ21742
Shigella ospD1	2	prey20143 (SYNCOILIN; prey20144) hSYNCOILIN
Shigella ospD1	2	prey1418 (NR1H2 UNR NER-1 RIP15 LXR-B; prey1419) hNR1H2 hNer-1
Shigella ospD1	2	prey67642 (ALDH3B2 ALDH3B2-PENDING ALDH8) hALDH3B2
Shigella ospD1	2	prey67648 (PON2) hPON2
Shigella ospC1	3	prey67266
Shigella ospC1	3	prey67267
Shigella ospC1	3	prey50590 (TID1; prey48229) hTID1
Shigella ospC1	3	prey9822
Shigella ospC1	3	prey67268
Shigella ospC1	3	prey67270
Shigella ospC1	3	prey67271 (STAT5B STAT5) hSTAT5B
Shigella ospC1	3	prey700 (RANBP9 RANBPM RANBP9-PENDING; prey701) hRANBP9 hRanBPM
Shigella ospC1	3	prey3486 (PM5; prey3487) hPM5 hpM5
Shigella ospC1	3	prey14801 (KIAA0321) hKIAA0321
Shigella ospC1	3	prey67279
Shigella ospC1	3	prey67280
Shigella ospC1	3	prey49194 (KIAA0211; prey49195) hKIAA0211
Shigella ospC1	3	prey67287
Shigella ospC1	3	prey19931 (HEF1 CAS-L) hHEF1
Shigella ospC1	3	prey67290
Shigella ospC1	3	prey67291
Shigella ospC1	3	prey67294
Shigella ospC1	3	prey67296
Shigella ospC1	3	prey67299
Shigella ospC1	3	prey4637 (TAF2A BA2R CCG1 CCGS NSCL2 TAF1I250; prey4638; prey4639) hTAF2A
Shigella ospC1	3	prey67316
Shigella ospC1	3	prey67318
Shigella ospC1	3	prey7144 (IMMT P8789 HMP; prey7145) hIMMT hp87/89
Shigella ospC1	3	prey67328 (TSC22) hTSC22
Shigella ospC1	3	prey37430 (WASL N-WASP; prey37432) hWASL hN-WASP
Shigella ospC1	3	prey67351
Shigella ospC1	3	prey67353
Shigella ospC1	3	prey25185 hHSPC272
Shigella ospC1	3	prey4411 (ZNF147 EFIP TRIM25 Z147) hZNF147
Shigella ospC1	3	prey2686 (VRP AD3; prey2687) hVRP

Shigella ospC1	3	prey67368 (LOC92609) hhypothetical proteinXP_053074
Shigella ospC1	3	prey67371
Shigella ospC1	3	prey4005 (KIAA0141; prey4006; prey8649; prey44107) hKIAA0141
Shigella ospC1	3	prey67380
Shigella ospC1	3	prey3296 (FHOS; prey3297) hFHOS
Shigella ospC1	3	prey2108 (prey2101; prey2104; prey2107; prey2102; prey2103) hSimilar to COP9 (constitutive photomorphogenic), subunit 5(Arabidopsis) hsimilar to COP9 (constitutive photomorphogenic, Arabidopsis, homolog) subunit 5 (H.sapiens) hCOPS5 hsimilar to COP9 (constitutive photomorphogenic, Arabidopsis, homolog) subunit 5 (H.sapiens) hCOPS5 hsimilar to COP9 (constitutive photomorphogenic, Arabidopsis, homolog) subunit 5 (H.sapiens)
Shigella ospC1	3	prey67403
Shigella ospC1	3	prey67405
Shigella ospC1	3	prey14400 (prey14399; prey14401) hprotein phosphatase 5, catalytic subunit hPPP5C hPPP5C
Shigella ospC1	3	prey50029
Shigella ipaD	4	prey67563 (PRSC1) hPRSC1
Shigella ipaD	4	prey2109 (COPS5 JAB1 SGN5 MOV-34; prey2110) hCOPS5 h38 kDa Mov34homolog
Shigella ipaD	4	prey25185 hHSPC272
Shigella ipaD	4	prey53990 (TNFRSF1A CD120a TNF-R TNF-R-I TNF-R55 TNFAR TNFR60 TNFR1 p55-R p55) hTNFRSF1A
Shigella ipaD	4	prey9120 (VIM; prey9122) hVIM hvimentin
Shigella ipaD	4	prey67571
Shigella ipaD	4	prey67572
Shigella ipaD	4	prey65696 (KARS KIAA0070; prey65697) hKARS hLysyl tRNA Synthetase
Shigella ipaD	4	prey8889 (PLCB3) hPLCB3
Shigella ipaD	4	prey700 (RANBP9 RANBPM RANBP9-PENDING; prey701) hRANBP9 hRanBPM
Shigella ipaD	4	prey2694 (INDO IDO; prey2696; prey2693) hINDO hINDO
Shigella ipaD	4	prey53735 (TLN1 TLN KIAA1027) hTLN1
Shigella ipaD	4	prey67574
Shigella ipaC	5	prey67509 (POLR2A RPOL2 POLR2 POLRA hRPB220 hsRPB1 RPO2 RpILS RPBh1 RPB1) hPOLR2A
Shigella ipaC	5	prey67514
Shigella ipaC	5	prey2926 (FLJ23153; prey2927) hFLJ23153
Shigella ipaC	5	prey4458 (RRBP1 ES130 ES/130; prey4459) hRRBP1 hES/130
Shigella ipaC	5	prey4458 (RRBP1 ES130 ES/130; prey4459) hRRBP1 hES/130
Shigella ipaC	5	prey67522
Shigella ipaC	5	prey527 (CLTC CLTCL2 KIAA0034; prey528) hCLTC hKIAA0034
Shigella ipaC	5	prey53735 (TLN1 TLN KIAA1027) hTLN1
Shigella ipaC	5	prey53735 (TLN1 TLN KIAA1027) hTLN1
Shigella ipaC	5	prey67546 (LOC128116) hsimilar to phosphodiesterase 4D interacting protein (myomegalin) (H.sapiens)
Shigella ipaC	5	prey4671 (KIAA0454) hKIAA0454

Shigella ipaC	5	prey67550 (LOC92689) hHypothetical proteinXP_046663
Shigella ipaC	5	prey8889 (PLCB3) hPLCB3
Shigella ipaC	5	prey11375 (HSPBP1; prey11376) hHSPBP1 hHsp70 binding proteinHspBP1
Shigella ipaC	5	prey67473 (GALE) hGALE
Shigella ipaC	5	prey8929 (KIAA0728 FLJ21489) hKIAA0728
Shigella ipaC	5	prey3488 (ACF7 ABP620 KIAA1251 KIAA0465) hACF7
Shigella ipaC	5	prey3514 (SNX1; prey3515) hSNX1
Shigella ipaC	5	prey5814 (USP9X DFFRX) hUSP9X
Shigella ipaC	5	prey5814 (USP9X DFFRX) hUSP9X
Shigella ipaC	5	prey67479
Shigella ipaC	5	prey700 (RANBP9 RANBPM RANBP9-PENDING; prey701) hRANBP9 hRanBPM
Shigella ipaC	5	prey67481 (GDBR1 GBDR1) hGDBR1
Shigella ipaC	5	prey67488 (LOC126257) hsimilar to putative (H.sapiens)
Shigella ipaC	5	prey51967 (UBQLN1 DSK2 PLIC-1 DA41 XDRP1) hUBQLN1
Shigella ipaC	5	prey67491 (KIAA1007 AD-005) hKIAA1007
Shigella ipaC	5	prey323 (CSH1 CSMT CSA PL; prey324; prey325) hCSH1
Shigella ipaC	5	prey67495
Shigella ipaC	5	prey67506 (LOC126083) hdyamin2
Shigella ipaC	5	prey4578 (PSAP SAP1 GLBA; prey5664) hPSAP hGLBA
Shigella ipaC	5	prey1135 (PSMD1 P112 S1; prey1136) hPSMD1 hproteasome subunitp112
Shigella ipaC	5	prey67465 (COL4A2 FLJ22259) hCOL4A2
Shigella ipaC	5	prey28880 (KPNA4; prey28881) hKPNA4 hQIP1
Shigella ipaC	5	prey3599 (TRIP12 KIAA0045; prey3600) hTRIP12 hKIAA0045
Shigella ipaH9.8	6	prey67717
Shigella ipaH9.8	6	prey700 (RANBP9 RANBPM RANBP9-PENDING; prey701) hRANBP9 hRanBPM
Shigella ipaH9.8	6	prey67718 (KIAA1715) hKIAA1715
Shigella ipaH9.8	6	prey2530 harrestin, beta1
Shigella ipaH9.8	6	prey67731 (LOC126896) hsimilar to Gene 33/Mig-6 (H.sapiens)
Shigella ipaH9.8	6	prey7155 (CSH2 CSB) hCSH2
Shigella ipaH9.8	6	prey1687 (DCTN1) hDCTN1
Shigella ipaH9.8	6	prey67734 (FLJ10618) hFLJ10618
Shigella ipaH9.8	6	prey2694 (INDO IDO; prey2696; prey2693) hINDO hINDO
Shigella ipaH9.8	6	prey67740
Shigella ipaH9.8	6	prey67703 (PPP2R4 PTPA) hPPP2R4
Shigella ipaH9.8	6	prey67741
Shigella ipaH9.8	6	prey67742 (FLJ20313) hFLJ20313
Shigella ipaH9.8	6	prey67339 (MMP19 RASI-1 MMP18) hMMP19

Shigella ipaH9.8	6	prey67337 (MMP19 RAS1-1 MMP18) hMMP19
Shigella ipaH9.8	6	prey67746 (FBXO25 FBX25) hFBXO25
Shigella ipaH9.8	6	prey54430 (PSG4 PSG9) hPSG4
Shigella ipaH9.8	6	prey67749
Shigella ipaH9.8	6	prey67751
Shigella ipaH9.8	6	prey8739 (MLL2 ALR; prey8742) hMLL2 hALR
Shigella ipaH9.8	6	prey18232 (CCT3 TRIC5 CCTG; prey18233) hCCT3 hCctg
Shigella ipaH9.8	6	prey66739 (EIF2B1 EIF2B EIF-2B) hEIF2B1
Shigella ipaH9.8	6	prey67769 (PP2135 FLJ00041) hPP2135
Shigella ipaH9.8	6	prey13613 (KIAA0970) hKIAA0970
Shigella ipaH9.8	6	prey3337 (LMNA LMN1 EMD2 FPL LFP LDP1 FPLD CMD1A; prey14196) hLMNA
Shigella ipaH9.8	6	prey67774 (LOC119758) hsimilar to REGULATOR OF PRESYNAPTIC ACTIVITY AEX-3 (H.sapiens)
Shigella ipaH9.8	6	prey67776
Shigella ipaH9.8	6	prey4758 (DKFZP761L0424 KIAA1217) hDKFZP761L0424
Shigella ipaH9.8	6	prey67781 putative homolog of prey046760 - Mouse Fmnl
Shigella ipaH9.8	6	prey2109 (COPS5 JAB1 SGN5 MOV-34; prey2110) hCOPS5 h38 kDa Mov34homolog
Shigella ipaH9.8	6	prey4060 (KIAA0155; prey4061; prey4062) hKIAA0155
Shigella ipaH9.8	6	prey49284 (SLC7A8 LAT2) hSLC7A8
Shigella ipaH9.8	6	prey67686
Shigella ipaH9.8	6	prey66872 (MRPS9) hMRPS9
Shigella ipaH9.8	6	prey67690 (RRP4) hRRP4
Shigella ipaH9.8	6	prey67695 (ATP6N1B RDRTA2 RTA1C VPP2 RTADR) hATP6N1B
Shigella ipaH9.8	6	prey67336 (MMP19 RAS1-1 MMP18) hMMP19
Shigella ipaH9.8	6	prey6299 (KIAA0335; prey6300) hKIAA0335
Shigella ipaH9.8	6	prey6586 (FLNA ABPX ABP-280 FLN FLN1 NHBP; prey6587) hFLNA
Shigella ipaH9.8	6	prey56789 (ALDH4 P5CDH; prey56791) hALDH4 hP5CDh
Shigella ipaH9.8	6	prey67711
Shigella ipaH9.8	6	prey2118 (RNF2 dinG Bap-1; prey2119) hRNF2 hring finger proteinBAP-1
Shigella ipaH9.8	6	prey3596 (DDX15 HRR2 DBP1; prey3597) hDDX15 hATP-dependent RNA helicase#46
Shigella ipaH9.8	6	prey666 (RANBP16 KIAA0745; prey667; prey665; prey9721) hRANBP16 hRAN binding protein16 hRANBP16
Shigella ospG	7	prey3917 (BTBD2 FLJ20386; prey3920; prey3918; prey3921; prey3922; prey3919) hBTBD2
Shigella ospG	7	prey63632 (ZNF189; prey63789) hZNF189
Shigella ospG	7	prey2109 (COPS5 JAB1 SGN5 MOV-34; prey2110) hCOPS5 h38 kDa Mov34homolog
Shigella ospG	7	prey54201 (UBE2D3 UBCH5C; prey54202) hUBE2D3 hUBCH5C
Shigella ospG	7	prey1922 (DLST DLTS; prey1923) hDLST hE2K
Shigella ospG	7	prey67418 (UBE2L3 UBCH7) hUBE2L3

Shigella ospG	7	prey67314 (UBE2L6 UBCH8 RIG-B) hUBE2L6
Shigella ospG	7	prey67435 hUnknown (protein forMGC:3432)
Shigella ospG	7	prey67443 (FLJ11807) hFLJ11807
Shigella ospG	7	prey67317 (KIAA1485) hKIAA1485
Shigella ospG	7	prey67393 (UBE2D2 UBCH5B UBC4) hUBE2D2
Shigella ospG	7	prey700 (RANBP9 RANBPM RANBP9-PENDING; prey701) hRANBP9 hRanBPM
Shigella ospG	7	prey67411 (UBE2E3 UBCH9) hUBE2E3
Shigella ospG	7	prey67423
Shigella ospG	7	prey67298
Shigella ospG	7	prey67464
Shigella ospG	7	prey67320
Shigella ospG	7	prey67321
Shigella ospG	7	prey35777 (PSG2 PSG2 PSGGB; prey35778) hPSG2 hPSG1
Shigella ospG	7	prey67327 (AKAP13 HT31 BRX) hAKAP13
Shigella ospG	7	prey412 (RPN2; prey413) hRPN2 hsignalpeptide
Shigella ospG	7	prey50598 (PEX10 NALD; prey50599) hPEX10 hperoxisome assembly proteinPEX10
Shigella ospG	7	prey67364
Shigella ospG	7	prey67367
Shigella ospG	7	prey67369
Shigella ospG	7	prey67372 (CD63 MLA1 ME491) hCD63
Shigella ospG	7	prey67379
Shigella ospG	7	prey67381 (LOC131541) hhypothetical proteinXP_059524

ospB	1	gb AB008515 AB008515 Homo sapiens mRNA for RanBPM, complete cds.
ospB	1	gb AC005091 AC005091 Homo sapiens BAC clone CTA-318C11 from 7p14-p15, complete sequence.
ospB	1	gb AF117888 AF117888 Homo sapiens myosin-IXa mRNA, complete cds.
ospB	1	gb AF141347 AF141347 Homo sapiens hum-a-tub2 alpha-tubulin mRNA, complete cds.
ospB	1	gb AF176702 AF176702 Homo sapiens F-box protein FBX3 mRNA, partial cds.
ospB	1	gb AF177198 AF177198 Homo sapiens talin mRNA, complete cds.
ospB	1	gb AF212940 AF212940 Homo sapiens zinedin (ZIN) mRNA, complete cds.
ospB	1	gb AF257211 AF257211 Homo sapiens LMO2b splice variant (LMO2) mRNA, complete cds.
ospB	1	gb AJ005897 HSA005897 Homo sapiens mRNA for JM5 protein, complete CDS (clone IMAGE 53337, LLNLc110F1857Q7 (RZPD Berlin) and LLNLc110G0913Q7 (RZPD Berlin)).
ospB	1	gb AK024239 AK024239 Homo sapiens cDNA FLJ14177 fis, clone NT2RP2003161.
ospB	1	gb AL049176 HS141H5 Human DNA sequence from clone 141H5 on chromosome Xq22.1-23. Contains parts of a novel Chordin LIKE protein with von Willebrand factor type C domains. Contains ESTs, STSs and GSSs, complete sequence.
ospB	1	gb AL122043 HSM801240 Homo sapiens mRNA; cDNA DKFZp566G1424 (from clone DKFZp566G1424).
ospB	1	gb AL442166 HSMX1A Homo sapiens chromosome 21 from 5 PACs and 5 Cosmids map 21q22.2,D21S349-MX1; segment 1/2, complete sequence.
ospB	1	gb AP002026 AP002026 Homo sapiens genomic DNA, chromosome 4q22-q24, clone:429K21, complete sequence.
ospB	1	gb D21260 HUMORFEA Human mRNA for KIAA0034 gene, complete cds.
ospB	1	gb L14599 HUMPSFHOMO Human mRNA, complete cds.
ospB	1	gb L28809 HUMAAE Homo sapiens dbpB-like protein mRNA, complete cds.
ospB	1	gb M23254 HUMCANP Human Ca2-activated neutral protease large subunit (CANP) mRNA, complete cds.
ospB	1	gb U24576 U24576 Homo sapiens breast tumor autoantigen (LMO4) mRNA, complete cds.
ospB	1	gb X61118 HSTTG2 Human TTG-2 mRNA for a cysteine rich protein with LIM motif.
ospD1	2	gb AB007879 AB007879 Homo sapiens KIAA0419 mRNA, complete cds.
ospD1	2	gb AB008515 AB008515 Homo sapiens mRNA for LIM homeobox protein cofactor (CLIM-2), complete cds.
ospD1	2	gb AB016485 AB016485 Homo sapiens mRNA for KIAA1033 protein, partial cds.
ospD1	2	gb AB028956 AB028956 Homo sapiens mRNA for KIAA1288 protein, partial cds.
ospD1	2	gb AB033114 AB033114 Homo sapiens mRNA for KIAA1288 protein, partial cds.
ospD1	2	gb AC003108 HUAC003108 Human Chromosome 16 BAC clone CIT987SK-327O24, complete sequence.
ospD1	2	gb AC008764 AC008764 Homo sapiens chromosome 19 clone CTD-322D19, complete sequence.
ospD1	2	gb AF001601 AF001601 Homo sapiens paraoxonase (PON2) mRNA, complete cds.
ospD1	2	gb AF006466 AF006466 Mus musculus lymphocyte specific formin related protein (Frl) mRNA, complete cds.
ospD1	2	gb AF061258 AF061258 Homo sapiens LIM protein mRNA, complete cds.

ospD1	2	gb AF068651 AF068651 Homo sapiens LIM-domain binding factor CLIM1 (CLIM1) mRNA, complete cds.
ospD1	2	gb AF128536 AF128536 Homo sapiens cytoplasmic phosphoprotein PACSIN2 mRNA, complete cds.
ospD1	2	gb AF155099 AF155099 Homo sapiens NY-REN-18 antigen mRNA, complete cds.
ospD1	2	gb AF177198 AF177198 Homo sapiens talin mRNA, complete cds.
ospD1	2	gb AF265342 AF265342 Homo sapiens chromosome 8 map 8p BAC 2053N22, complete sequence.
ospD1	2	gb AK001888 AK001888 Homo sapiens cDNA FLJ11026 fis, clone PLACE1004104.
ospD1	2	gb AL121808 CNS01DSJ Human chromosome 14 DNA sequence *** IN PROGRESS *** BAC C-2313O13 of library CalTech-D from chromosome 14 of Homo sapiens (Human), complete sequence.
ospD1	2	gb AQ628981 AQ628981 RPCI-11-46915.TJ RPCI-11 Homo sapiens genomic clone RPCI-11-46915, DNA sequence.
ospD1	2	gb B88348 B88348 CIT-HSP-2063N18.TFB CIT-HSP Homo sapiens genomic clone 2063N18, DNA sequence.
ospD1	2	gb J57298 HUMGPG25K Human GTP-binding protein G25K mRNA, complete cds.
ospD1	2	gb J63960 HUMPRPHOS1 Human protein phosphatase-1 catalytic subunit mRNA, complete cds.
ospD1	2	gb J07132 HSU07132 Human steroid hormone receptor Ner-I mRNA, complete cds.
ospD1	2	gb J31903 HSU31903 Human CREB-RP (creb-rp) mRNA, complete cds.
ospD1	2	gb J37519 HSU37519 Human aldehyde dehydrogenase (ALDH8) mRNA, complete cds.
ospD1	2	gb X65873 HSKHCMR H.sapiens mRNA for kinesin (heavy chain).
ospD1	2	gb X65873 HSKHCMR H.sapiens mRNA for kinesin (heavy chain).
ospD1	2	gb X65873 HSKHCMR H.sapiens mRNA for kinesin (heavy chain).
ipaD	4	gb AB008515 AB008515 Homo sapiens mRNA for RanBPM, complete cds.
ipaD	4	gb AF161390 AF161390 Homo sapiens HSPC272 mRNA, partial cds.
ipaD	4	gb AF177198 AF177198 Homo sapiens talin mRNA, complete cds.
ipaD	4	gb D32053 D32053 Homo sapiens mRNA for Lysyl tRNA Synthetase, complete cds.
ipaD	4	gb D55696 D55696 Homo sapiens mRNA for cysteine protease, complete cds.
ipaD	4	gb M14144 HUMVIM Human vimentin gene, complete cds.
ipaD	4	gb M34455 HUMIGLIDO Human interferon-gamma-inducible indoleamine 2,3-dioxygenase (IDO) mRNA, complete cds.
ipaD	4	gb M63121 HUMTNFRC Human tumor necrosis factor receptor (TNF receptor) mRNA, complete cds.
ipaD	4	gb J070734 HSU070734 Homo sapiens 38 kDa Mov34 homolog mRNA, complete cds.
ipaD	4	gb Z26649 HSPPLCB3 H.sapiens mRNA for phospholipase C-b3.
ipaD	4	gb Z26649 HSPPLCB3 H.sapiens mRNA for phospholipase C-b3.
ipaC	5	gb AB002366 AB002366 Human mRNA for KIAA0368 gene, partial cds.
ipaC	5	gb AB002533 AB002533 Homo sapiens mRNA for Qip1, complete cds.
ipaC	5	gb AB007923 AB007923 Homo sapiens mRNA for KIAA0454 protein, partial cds.
ipaC	5	gb AB008515 AB008515 Homo sapiens mRNA for RanBPM, complete cds.
ipaC	5	gb AB018271 AB018271 Homo sapiens mRNA for KIAA0728 protein, partial cds.

ipaC	5	gb AB020335 AB020335 Homo sapiens Pancreas-specific TSA305 mRNA , complete cds.
ipaC	5	gb AB023224 AB023224 Homo sapiens mRNA for KIAA1007 protein, partial cds.
ipaC	5	gb AB029290 AB029290 Homo sapiens mRNA for actin binding protein ABP620, complete cds.
ipaC	5	gb AB046026 AB046026 Macaca fascicularis brain cDNA, clone:QccE-16688.
ipaC	5	gb AC003991 AC003991 Human BAC clone CTB-167B5 from 7q21, complete sequence.
ipaC	5	gb AC005578 AC005578 Homo sapiens chromosome 19, cosmid F20887, complete sequence.
ipaC	5	gb AF006751 AF006751 Homo sapiens ES/130 mRNA, complete cds.
ipaC	5	gb AF006751 AF006751 Homo sapiens ES/130 mRNA, complete cds.
ipaC	5	gb AF006751 AF006751 Homo sapiens ES/130 mRNA, complete cds.
ipaC	5	gb AF100153 AF100153 Homo sapiens connector enhancer of KSR-like protein CNK1 mRNA, complete cds.
ipaC	5	gb AF176069 AF176069 Homo sapiens ubiquitin mRNA, complete cds.
ipaC	5	gb AF176069 AF176069 Homo sapiens ubiquitin mRNA, complete cds.
ipaC	5	gb AF176796 AF176796 Homo sapiens putative glioblastoma cell differentiation-related protein (GBDR1) mRNA, complete cds.
ipaC	5	gb AF176796 AF176796 Homo sapiens putative glioblastoma cell differentiation-related protein (GBDR1) mRNA, complete cds.
ipaC	5	gb AF176796 AF176796 Homo sapiens putative glioblastoma cell differentiation-related protein (GBDR1) mRNA, complete cds.
ipaC	5	gb AF177198 AF177198 Homo sapiens talin mRNA, complete cds.
ipaC	5	gb AF177198 AF177198 Homo sapiens talin mRNA, complete cds.
ipaC	5	gb AF187859 AF187859 Homo sapiens Hsp70 binding protein HspBP2 mRNA, complete cds.
ipaC	5	gb AF189009 AF189009 Homo sapiens ubiquitin-like product Chap1/Dsk2 mRNA, complete cds.
ipaC	5	gb AK000982 AK000982 Homo sapiens cDNA FLJ10120 fis, clone HEMBA1002863.
ipaC	5	gb D21260 HUMORFEA Human mRNA for KIAA0034 gene, complete cds.
ipaC	5	gb D28476 HUMKG1C Human mRNA for KIAA0045 gene, complete cds.
ipaC	5	gb D44466 D44466 Homo sapiens mRNA for proteasome subunit p112, complete cds.
ipaC	5	gb J00118 HUMPLB Human placental lactogen hormone (PL-4) mRNA, complete cds.
ipaC	5	gb J00118 HUMPLB Human placental lactogen hormone (PL-4) mRNA, complete cds.
ipaC	5	gb J04164 HUM927A Human interferon-inducible protein 9-27 mRNA, complete cds.
ipaC	5	gb L36983 HUMDNM Homo sapiens dynamin (DNM) mRNA, complete cds.
ipaC	5	gb L41498 HUMPT1B Homo sapiens longation factor 1-alpha 1 (PTI-1) mRNA, complete cds.
ipaC	5	gb L41668 HUMGALE Homo sapiens UDP-galactose-4-epimerase (GALE) mRNA, complete cds.
ipaC	5	gb M24766 HUMCOL4A2P Human (clone pHAIV2-12) alpha-2 collagen type IV (COL4A2) mRNA, 3' end.
ipaC	5	gb M81355 HUMSPHINO Homo sapiens sphingolipid activator proteins 1 and 2 processed mutant mRNA, complete cds.
ipaC	5	gb U02389 HSU02389 Human hLON ATP-dependent protease mRNA, nuclear gene encoding mitochondrial protein, complete cds.
ipaC	5	gb U53225 HSU53225 Human sorting nexin 1 (SNX1) mRNA, complete cds.

ipaC	5	gb X05610 HSC4A2 Human mRNA for type IV collagen alpha (2) chain.
ipaC	5	gb X63564 HSRPIILS H.sapiens mRNA for RNA polymerase II largest subunit.
ipaC	5	gb X98296 HSUBIQHYD H.sapiens mRNA for ubiquitin hydrolase.
ipaC	5	gb Z26649 HSPPLCB3 H.sapiens mRNA for phospholipase C-b3.
ipaH9.8	6	dbj AB001636.1 AB001636 Homo sapiens mRNA for ATP-dependent RNA helicase #46, complete cds
ipaH9.8	6	dbj AB002333.1 AB002333 Human mRNA for KIAA0335 gene, complete cds
ipaH9.8	6	dbj AB008515.1 AB008515 Homo sapiens mRNA for RanBPM, complete cds
ipaH9.8	6	dbj AB023187.1 AB023187 Homo sapiens mRNA for KIAA0970 protein, complete cds
ipaH9.8	6	dbj AB033043.1 AB033043 Homo sapiens mRNA for KIAA1217 protein, partial cds
ipaH9.8	6	dbj AK001451.1 AK001451 Homo sapiens cDNA FLJ10589 fis, clone NT2RP2004389, weakly similar to PROBABLE MITOCHONDRIAL 40S RIBOSOMAL PROTEIN S9 PRECURSOR
ipaH9.8	6	dbj AK024449.1 AK024449 Homo sapiens mRNA for FLJ00041 protein, partial cds
ipaH9.8	6	dbj D63875.1 D63875 Human mRNA for KIAA0155 gene, complete cds
ipaH9.8	6	emb AL034405.16 HS537K23 Human DNA sequence from clone RP4-537K23 on chromosome Xq25-26.1, complete sequence [Homo sapiens]
ipaH9.8	6	emb AL034417.14 HS215D11 Human DNA sequence from clone 215D11 on chromosome 1p36.12-36.33 Contains a gene for a RNA-binding protein regulatory subunit, a gene similar to rat gene 33, a pseudogene similar to PLA-X, ESTs, STSs, GSSs and CpG islands, complete sequence [Homo sapie
ipaH9.8	6	emb AL050313.6 HSBK754D9 Human DNA sequence from clone CTA-754D9 on chromosome 22 Contains GSSs, complete sequence [Homo sapiens]
ipaH9.8	6	emb AL117448.1 HSM800958 Homo sapiens mRNA; cDNA DKFZp586B1417 (from clone DKFZp586B1417); partial cds
ipaH9.8	6	emb AL137068.10 AL137068 Human DNA sequence from clone RP11-165P4 on chromosome 9q34.11-34.13, complete sequence [Homo sapiens]
ipaH9.8	6	emb X53416.1 HSABP280 Human mRNA for actin-binding protein (filamin) (ABP-280)
ipaH9.8	6	emb X73478.1 HSPTAA H.sapiens hPTPA mRNA
ipaH9.8	6	emb X74801.1 HSHUMAPC H.sapiens Cctg mRNA for chaperonin
ipaH9.8	6	emb X95648.1 HSEIF2BAS H.sapiens mRNA for eIF-2B alpha subunit
ipaH9.8	6	gb AC005392.1 AC005392 Homo sapiens chromosome 19, CIT-HSP BAC 490g23 (BC338531), complete sequence
ipaH9.8	6	gb AC005833.1 AC005833 Homo sapiens 12p13.3 BAC RPC111-234B24 (Roswell Park Cancer Institute Human BAC Library) complete sequence
ipaH9.8	6	gb AC005881.3 AC005881 citb_79_e_16, complete sequence [Homo sapiens]
ipaH9.8	6	gb AC020663.1 AC020663 Homo sapiens chromosome 16 clone RPC1-11_127120, complete sequence
ipaH9.8	6	gb AF006466.1 AF006466 Mus musculus lymphocyte specific formin related protein (Frl) mRNA, complete cds
ipaH9.8	6	gb AF010404.1 AF010404 Homo sapiens ALR mRNA, complete cds

ipaH9.8	6	gb AF064729.1 AF064729 Homo sapiens RAN binding protein 16 mRNA, complete cds
ipaH9.8	6	gb AF084940.1 AF084940 Homo sapiens beta-arrestin 1B mRNA, complete cds
ipaH9.8	6	gb AF135159.1 AF135159 Homo sapiens GMP reductase mRNA, complete cds
ipaH9.8	6	gb AF139184.1 AF139184 Homo sapiens Sec31 protein mRNA, complete cds
ipaH9.8	6	gb AF141327.1 AF141327 Homo sapiens ring finger protein BAP-1 mRNA, complete cds
ipaH9.8	6	gb AF171669.1 AF171669 Homo sapiens glycoprotein-associated amino acid transporter LAT2 (LAT2) mRNA, complete cds
ipaH9.8	6	gb AF174605.1 AF174605 Homo sapiens F-box protein Fbx25 (FBX25) mRNA, partial cds
ipaH9.8	6	gb AF207661.1 AF207661 Homo sapiens sodium bicarbonate cotransporter-like protein mRNA, partial cds
ipaH9.8	6	gb AF245517.1 AF245517 Homo sapiens vacuolar proton pump 116 kDa accessory subunit (ATP6N1B) mRNA, complete cds, alternatively spliced
ipaH9.8	6	gb AF249874.1 AF249874 Homo sapiens vacuolar proton pump 116 kDa accessory subunit gene, exon 3 and 5' untranslated region, partial sequence
ipaH9.8	6	gb J00118.1 HUMPLB Human placental lactogen hormone (PL-4) mRNA, complete cds
ipaH9.8	6	gb L14283.1 HUMPROKINC Human protein kinase C zeta mRNA, complete cds
ipaH9.8	6	gb L25286.1 HUMCOLXVA1 Homo sapiens alpha-1 type XV collagen mRNA, complete cds
ipaH9.8	6	gb M13451.1 HUMLAMC Human lamin C mRNA, complete cds
ipaH9.8	6	gb M21616.1 HUMPDGFR Human platelet-derived growth factor (PDGF) receptor mRNA, complete cds
ipaH9.8	6	gb M32053.1 HUMH19 Human H19 RNA gene, complete cds
ipaH9.8	6	gb M34455.1 HUMIGILDO Human interferon-gamma-inducible indoleamine 2,3-dioxygenase (IDO) mRNA, complete cds
ipaH9.8	6	gb M94890.1 HUMPSBG11 Human pregnancy-specific beta-1-glycoprotein 11 (PSG11) mRNA, complete cds
ipaH9.8	6	gb M98478.1 HUMTGH1A Human transglutaminase mRNA, complete cds
ipaH9.8	6	gb U24267.1 HSU24267 Human pyrroline-5-carboxylate dehydrogenase (P5CDh) mRNA, short form, complete cds
ipaH9.8	6	gb U37791.1 HSU37791 Homo sapiens clone rasi-1 matrix metalloproteinase RASI-1 mRNA, complete cds
ipaH9.8	6	gb U38431.1 HSU38431 Human clone rasi-6 matrix metalloproteinase RASI-1 mRNA, splice variant, complete cds
ipaH9.8	6	gb U65928.1 HSU65928 Human Jun activation domain binding protein mRNA, complete cds
ipaH9.8	6	ref NM_014285.1 Homo sapiens homolog of Yeast RRP4 (ribosomal RNA processing 4), 3'-5'-exoribonuclease (RRP4), mRNA
ipaH9.8	6	ref NM_017762.1 Homo sapiens hypothetical protein FLJ20313 (FLJ20313), mRNA
ipaH9.8	6	ref NM_018155.1 Homo sapiens hypothetical protein FLJ10618 (FLJ10618), mRNA
ospG	7	gb AB008515 AB008515 Homo sapiens mRNA for RanBPM, complete cds.
ospG	7	gb AB013818 AB013818 Homo sapiens PEX10 mRNA for peroxisome biogenesis factor (peroxin) 10, complete cds.
ospG	7	gb AB033054 AB033054 Homo sapiens mRNA for KIAA1228 protein, partial cds.
ospG	7	gb AB033054 AB033054 Homo sapiens mRNA for KIAA1228 protein, partial cds.
ospG	7	gb AB040918 AB040918 Homo sapiens mRNA for KIAA1485 protein, partial cds.
ospG	7	gb AC005281 AC005281 Homo sapiens PAC clone RP4-722F20 from 7q31.1-q31.3, complete sequence.

ospG	7	gb AE003603 AE003603 Drosophila melanogaster genomic scaffold 142000013386043 section 4 of 8, complete sequence.
ospG	7	gb AF033095 AF033095 Homo sapiens testis enhanced gene transcript protein (TEGT) mRNA, complete cds.
ospG	7	gb AF035121 AF035121 Homo sapiens KDR/rlk-1 protein mRNA, complete cds.
ospG	7	gb AF061736 AF061736 Homo sapiens ubiquitin-conjugating enzyme RIG-B mRNA, complete cds.
ospG	7	gb AF085362 AF085362 Homo sapiens UbcM2 mRNA, complete cds.
ospG	7	gb AF104913 AF104913 Homo sapiens eukaryotic protein synthesis initiation factor mRNA, complete cds.
ospG	7	gb AF155238 AF155238 Homo sapiens BAC 18023 chromosome 8 map 8q24.3 beta-galactoside alpha-2,3-sialyltransferase (SIAT4A) gene, complete sequence.
ospG	7	gb AJ000519 HSUBICONJ Homo sapiens mRNA for ubiquitin-conjugating enzyme UbcH7.
ospG	7	gb AK000393 AK000393 Homo sapiens cDNA FLJ20386 fis, clone KAI4184.
ospG	7	gb AK001311 AK001311 Homo sapiens cDNA FLJ10449 fis, clone NT2RP1000947, highly similar to Human E2 ubiquitin conjugating enzyme UbcH5B mRNA.
ospG	7	gb AL050321 HSJ717M23 Human DNA sequence from clone RP4-717M23 on chromosome 20, complete sequence.

Table III : SID®

1: Bait name	2: Bait nucleic acid SEQ ID No.	3: Prey name	4: SID nucl eic acid ID No.	5: SID nucleic acid sequence	6: SID amino-acid No.	7: SID amino-acid sequence
Shigella ospB	1	prey44074	15	CTTCAGCCACGACTCCTCTCCTCTCGCGCTTCCAGTGATAAGGGTACTGTC CATATCTTTGCTCTCAAGGATACCGCCTCAACCGCGCTCCGCGCTGGCTC GCGTGGCAAGGTGGGCGCTATGATTGGCAGTACGTGGACTCTCAGTGA GCGTGGCAGCTTCACTGTGCTGCTGAGTCACTTGCATCTGCGCCTTCG GTCGCAATACTTCCAAGAACGTCAACTCTGTCAATTGCCATCTGCGTAGATGG GACCTCCACAAATATGTCTTCACTCCTGATGGAACTGCAACAGAGAGGCT TTCGACGTGACCTTGACATCTGTGATGATGACATTTAA	216	FSHDSFLCASSDKGTVHI FALKDTRLNRRSALARVGK VGPIMQYVDSQWSLAS TVPAESACICAFGRNTSKN VNSVIAICVDGTFHKYVFTP DGNCNREAFDVYLDICDDD DF*
Shigella ospB	1	prey67804	16	GACCAGCAAGTCTTGGAGTACAATGGGACAACCTTACCAACATGGAGAGCT GTTCGTAGCTGAAGGGCTCTTTCAGAAATCGGCAACCAATCAATGCACCCAG TGCAGCTGTCGGAGGGAACGTGATTGTGGTCTCAAGACTTGCCCAAT TAACCTGTGCTTCCAGTCTCTGTTCAGATTCTCTGCTGCGGGTATGAG AGGAGATGGAACTGTCATGGGAACATCTGATGGTGATATCTTCCGGCAA CCTGCCAACAGAGAAGCAAGACATTTACCACCGCTCTCACTATGATCCTC CACCAAGCCGACAGGCTGGAGTCTGCCGCTTCTCTGGGCGCAGAAAGT ACCGGGAGCTCTTATGGATCCAGCAAGCATCGGAACCATTTGTGCAAT TGTCATCAATAACAACACAAAGCATGGACAAGTGTGTGTTTCCAATGAAAG ACCTATTCTCATGGCGAGTCTGCGACCCAAACCTCCGGGCTTTGGCATTG TGGAGTGTGCTATGTAATGTAATGTACCAAGCAAGAGTGAAGAAAT CCACTGCCCCAATCGATACCCCTGCAAGTATCTCAAAAATAGACGGAAAA TGCTGCAAGGTGTCCAGGTAAAAAGCAAAAGAACTCCAGGCCAAAGCT TTGACAATAAAGGCTACTTCTGCGGGGAAGAAACGATGCCTGTGTAGTCT GTATTATGGAGGATGGGAGACAAACCAAGAAATAGCACTGGAGACTGA GAGACCCTCAGGTAGAGTCCACGTTTGGACTATTCGAAAGGGCATTCTC CAGCACTTCCATATTGAGAAGATCTCCAAGAGGATGTTGAGAGCTTCCCTC ACTTCAAGCTGTTGACCAAGAACCCCTGAGCCAGTGGAAAGATCTTCAACGA AGGAGAAGCTCAGATCAGCCAGATGTGTTCAAGTCGTGTATGCAGAACAGA GCTTGAAGATTTAGTCAAGGTTTTGTACCTGGAGAGATCTGAAAAGGGCCAC GTTAG	217	TSKSCEYNGTTYQHGEFV AEGLFQNRQPNQCTQCSC SEGNVYGLKTCPLKTCAF PVSVPDSCCRVCRGDGEL SWEHSDGDIFRQPANREA RSHYHRSHYDPPPSRQAG GLSRFPGARSHRGALMDS QQASGTIVQIVNNKHKG QVCVSNKGTYSHGSEWHP NLRAFGIVECVLCTCNVTK QECKIHCPNRYPCYPQK IDGKCKVCPCGKKAKELPG QSFDNKGYFCGEETMPVY ESVMEDGETTRKIALETB RPPQVEHVWTRKILQHV FHIEKSRMFEELPHFKLV TRTTLQWKIFTEGEAQISQ MCSRRVCRTELEDLVKVLV LERSEKGHC*
Shigella ospB	1	prey67806	17	NCTNCCCTGNGCGNACCAGCCTGGTNANCTTACCNGGANCCACNGGATGT NGTGTANCTGTGCTCTGCGCTTGCCATGATGACTTNTGGAGCTGCANCCG TCGCGTTTNTGNNGCTGTTGGTGNCGGCCCTCCNTANGNTGTGNACGA	218	XXLXXTSLVXLPXGTGCXV XVLCACHDDXWELXPSRX XXVVGXXPPXXVXRRLXFA

Shigella ospB	1	prey67810	18	AGACTGTTNTTGTAAAGACCTGCNGTNGTCTGCTTCATTTGNGAGNITTT NNTTAGGGGNGNNTTATTNCTAAATNTTGGACTCTTAAGTTTTNGNTGN GGTTTTNTNGNNAAGAA	AGACTGTTNTTGTAAAGACCTGCNGTNGTCTGCTTCATTTGNGAGNITTT NNTTAGGGGNGNNTTATTNCTAAATNTTGGACTCTTAAGTTTTNGNTGN GGTTTTNTNGNNAAGAA	KDLXAAASXGEXXLGGXLX LKXWDS*VXXVFXFK
Shigella ospB	1	prey5237	19	GGCGGCCATGGAGACCGAGACGGCGCGCTGACCCCTAGAGTCGCTGCCCA CCGATCCCTGCTCCTCATCTTATCCTTTTGGACTATCGGGATCTAATCAAC TGTTGTTATGTGAGTGAAGACTTACCCAGCTATCAAGTCATGATCCGCTGT GGAGAAGACATTGCAAAAAATACTGGCTGATATCTGAGGAAGAGAAAAACA GAAGAATCAGTGTGGAAATCTCTTTCATAGATACTTACTCTGATGTAGGAA GATACATTGACCATTATGCTGCTATTAAAAAGGCGCTGGGATGATCTCAAGAAA TATTTGAGCCCAAGTGCTCGGATGGTTTATCTCTGAAAGAGGGTGCTC GAGAGGAAGACCTCGATGCTGTGGAAGCGCAGATTGGCTGCAAGCTTCCTG ACGATTATCGATGTTTATACCGAATTCACAATGGACAGAAGTAGTGTTCTCT GGGTTATTGGGAAGCATGGCACTGCTAATCACTATCGTTCTGAAGATTGTT AGCGTCGATACAGTCCCGAGGATTCAGCAGAGACAGGACTGAAATA CTGTCCTCTTAACTTTTGCATACATACTGGTTGAGTCAGTACATAGCAG TGGAAGCTGCAGAGGGCGGAAACAAAAATGAAGTTTCTACCAATGTCCAGA CCAAATGGCTCGAAATCCAGCTGCTATTGACATGTTTATTATAGGTGCTACTT TTACTGACTGTTTACCTTTATGTCAAAAATGTTGATCAGGTGGCTTCCCC ATCATCAGAGACCAAAATTTTCAGATATGTTCCAGTCCAGATGTAGCAAC AACTGGGGATATTACTGTGTCAGTTTCCACATACCGAATCAGGATGAAATGTC CTGTACATCCACCCCACTATTTCTTACATACCGAATCAGGATGAAATGTC AAAGATGCATCTCTGAGAAGGCTGTGAGTGGACAGTCGCTATTGGAGAA TAACAAATGCTAAGGTGACGTGGAAGAAGTTCAAGGACCTGGAAGTAGTTG GTGAATTTCCAAATCATCAGCCCGAGTGGGTATATGAATACACAAGCTGTAC CACATTCTCTACAACATCAGGATACATGGAAGGATATTATACCTTCCATTTTC TTTACTTTAAAGACAAGATCTTTAATGTTGCCATTCCCGATTCCCATATGGCAT GTCCAACATTCAGGGTGTCATAGCCCGATTGGTAAGTTAA	GGCGGCCATGGAGACCGAGACGGCGCGCTGACCCCTAGAGTCGCTGCCCA CCGATCCCTGCTCCTCATCTTATCCTTTTGGACTATCGGGATCTAATCAAC TGTTGTTATGTGAGTGAAGACTTACCCAGCTATCAAGTCATGATCCGCTGT GGAGAAGACATTGCAAAAAATACTGGCTGATATCTGAGGAAGAGAAAAACA GAAGAATCAGTGTGGAAATCTCTTTCATAGATACTTACTCTGATGTAGGAA GATACATTGACCATTATGCTGCTATTAAAAAGGCGCTGGGATGATCTCAAGAAA TATTTGAGCCCAAGTGCTCGGATGGTTTATCTCTGAAAGAGGGTGCTC GAGAGGAAGACCTCGATGCTGTGGAAGCGCAGATTGGCTGCAAGCTTCCTG ACGATTATCGATGTTTATACCGAATTCACAATGGACAGAAGTAGTGTTCTCT GGGTTATTGGGAAGCATGGCACTGCTAATCACTATCGTTCTGAAGATTGTT AGCGTCGATACAGTCCCGAGGATTCAGCAGAGACAGGACTGAAATA CTGTCCTCTTAACTTTTGCATACATACTGGTTGAGTCAGTACATAGCAG TGGAAGCTGCAGAGGGCGGAAACAAAAATGAAGTTTCTACCAATGTCCAGA CCAAATGGCTCGAAATCCAGCTGCTATTGACATGTTTATTATAGGTGCTACTT TTACTGACTGTTTACCTTTATGTCAAAAATGTTGATCAGGTGGCTTCCCC ATCATCAGAGACCAAAATTTTCAGATATGTTCCAGTCCAGATGTAGCAAC AACTGGGGATATTACTGTGTCAGTTTCCACATACCGAATCAGGATGAAATGTC CTGTACATCCACCCCACTATTTCTTACATACCGAATCAGGATGAAATGTC AAAGATGCATCTCTGAGAAGGCTGTGAGTGGACAGTCGCTATTGGAGAA TAACAAATGCTAAGGTGACGTGGAAGAAGTTCAAGGACCTGGAAGTAGTTG GTGAATTTCCAAATCATCAGCCCGAGTGGGTATATGAATACACAAGCTGTAC CACATTCTCTACAACATCAGGATACATGGAAGGATATTATACCTTCCATTTTC TTTACTTTAAAGACAAGATCTTTAATGTTGCCATTCCCGATTCCCATATGGCAT GTCCAACATTCAGGGTGTCATAGCCCGATTGGTAAGTTAA	QQQQQPPPPPIPANGQQA SSQNEGLTIDLKNFRKPG KTFTQRSRLFVGNLPPDIT EEMRKLFEKYGKAGEVFIH KDKGFGFIRLETRLAEIAK VELDNMPLRGKQLRVFA CHSASLTVRNLPQVVSNEL LEEAFFVFGQVERAVVID DRGRPSGKGIVFSGKPAA RKALDRCSEGSLLTTFPR PVTVEPMDQLDDEEGLPEK LVKNQQFHKEREQPPRFA

Shigella ospB	1	prey67661	20	CAGAGAAGCTGTTATAAAAACCAGCAATTTACAAGGAACGAGAGCAGCC ACCCAGATTGACAGCCTGGCTCCTTGGATGATGAATATGCCATGCCGTGG AAGGCATCTATTGAGATGGAGAAGCAGCAGCAGGACCAAGTGACCGCAAC ATCAAGGAGGC		QPGSEFEYAMRWKALIE MEKQQQDQVDRNIKE
Shigella ospB	1	prey34730	21	TGGGGATTCTGCATCCGGGTCTTTCTGAAAAAGAAAGCTGACTACCAAGCT GTCGATGATGAATCGAGGCCAATCTTGAAGAGTTCGACATCAGCGAGGATG ACATTGATGATGGAGTCAGGAGACTGTTGCCAGTTGGCAGGAGAGGATG CGGAGATCTCGCTTTGAGCTGCAGACCATCTGAGAGGGTCTAGCAAA GCGCAAGATATCAAGTCAGATGGCTTCAGCATCGAGACATGCAAAATTATG GTTGACATGCTAGATTGCGACGGGAGTGGCAAGCTGGGGCTGAAGGAGTTC TACATTCTCTGGACGAAGATTCAAAATACCAAAATTTACCGAGAAATCGA CGTTGACAGGCTGGTACCATGAATCTCTATGAATGCGGAAGGCATTAGAA GAAGCAGGTTTCAAGATGCCCTGTCAACTCCACCAAGTCATCGTTGCTCGGT TTGCAGATGACCAGCTCATCATGATTTTGATAATTTGTTGGTGGTTGGTT CGGCTGGAACGCTATTCAAGATATTTAAGCAGCTGGATCCCGAGATACTG GAACAATAGAGCTCGACCTTATCTTGGCTCTGTTCTCAGTACTTTGA		GDFCIRVFSEKKADYQAVD DEIEANLEEFIDISEDIDDG VRRLFAQLAGEDAEISAFEL QTLRRLVLAQRQDIKSDGFS IETCKIMVMDLSDSGSKL GLKEFYILWTIKYQKIYR EIDVDRSGTMNSYMRKA EEAGFKMPCQLHQVIVARF ADDQLIIDFDNFVRCLVRLE TLFKIFQLDPENTGTIELDL ISWLCFSVL*
Shigella ospB	1	prey33141	22	ATGGTGAATCCGGGAGCAGCTCGAGCCGCCCGGTCAGCGCGGCTC CCTCTCTGGAAGCGTGCAGGCTGCGGGGCAAGATTGCGGACCGCT TTCTGCTCTATGCCATGGACAGCTATTGGCACAGCGGTGCTCAAGTGCTC CTGCTGCCAGGCGCAGCTGGCGACATCGGCACGCTCTGTTACACCAAAAG TGCCATGATCCTTTGCAGAAATGACTACATAGGTTATTTGGAATAGCGGTG CTTGACGGCTTGGGACAGTCGATTCCTCGGAGTGAACCTGCTCATGAGGG CGCAAGGCAATGTATCATCTTAAGTGTGTTTACATGCTCTACCTGCCGGAAT CGCTGGTCCCGGAGATCGGTTTCACTACATCAATGGCAGTTATTTGTG AACATGATAGACCTACAGCTCTCATCAATGGCCATTTGAATTCACCTCAGAGC AATCCACT		MVNPSSSSQPPPVTAGSL SWKRCAGCGGKIADRFLLY AMDSYWHSRCLKSCCQA QLGDIGTSCYTKSGMILCR NDYIRLFGNSGACSCGQS IPASELVMRAQGNVYHLKC FTCSTCRNRLVPGDRFHYI NGSLFCEHDRPTALINGHL NSLQSNP
Shigella ospB	1	prey67575	23	CCTGAGCCTGCCGGGATCCTGCACCTTATCCAGCACGAGTGGCGCGCTT CGAAGCCGAGAAAGCCCGCTGGGAGGCCGAGCGCGCGAGTTACAGGCTC AGGTGGCTTCTTCAGGGAGAGAGGAAAGGGCAGGAGATCTAAAGACGG ACCTGGTGGCGGATCAAGATGCTAGATATGCGCTGAAGCAGGAAAGGG CCAAATATCAAACTGAAGTTGGGACAGACCTGAACCGGGGGAGAAAGAA AGCAGATGTGCAGAACCAAGTCTCAATGGCCCGTGGATCGGTACCCCT GGAGAACAGCCCGTTGGTGTGGAAGGAGGGGCGGCAGCTTCTCCGACAGT ACCTGGGAA		LSLPGLHFHQHEWARFEAE KARWEAERAELOAQVAFLL QGERKGQENLKTDLVRRRI MLEYALKQERAKYHKLKFG TDLNQGEKKADVSEQVSN GPVESVTLENSPLVWKEG RQLLRQYLE
Shigella ospB	1	prey67575	24	ATGGCAGCTCCTTACGGCTCCTCGGAGCTGCCTCCGGTCTCCGGTACTGG AGCCGGCGGCTCGGCGCGGAGCGCGGAGCTTTGCAGCGGTGTGTTCTAG GTCAGTGGCTTCAAGACTCCAGTTGGATTCTATTGGACTGGGCAACATGGG GAATCCCAATGGCAAAATCTCATGAACATGGCTATCCACTTATTATTATG ATGTGTTCCCTGATGCTGCAAGAGAGTTCAAGATGCAGGTGAACAGGTAGT		MAASRLRLLGAASGLRYWS RRLRPAAGSFAAVCSRSVA SKTPVGFGLGNMGNPMAK NLMKHGYPLIYDVFPDACK EFQDAGEQVWSSPADVAE

Shigella ospB	1	prey67608	24	ATCTCCAGCAGATGTTGCTGAAAAAGCTGACAGAAATTATTACAATGCTGC CCACAGTATCAATGCAATAGAAGCTTATTCGGAGCAAAATGGGATCTAAA AAAAGTGAAGAAGGCTCATTATTAATAGATTCAGCACATTGATCCTGCAG TTTCAAAAGAAATGGCCAAAGAAGTTAGAAAATGGAGCAGTTTTCATGGA TGCCCTGTTTCTGGTGTAGGAGCTGCACGATCTGGAACTCAGGTTT ATGGTGGAGGAGTTGAAGATGAATTTGCTGCTGCCAAGAGTTGCTGGGG TGCTGGCTCCAACTGCTGTTGAGCTGTTGGAGTGGAGCTGGCAGGGG GCAAGATCTGCAACAACATGCTGTTAGCTATTAGTATGATTGAACTGCTGA AGCTATGAATCTTGAATCAGGTTAGGCTTGACCCAAACTACTGGCTAAA ATCCTAAATATGAGCTCAGGACGTTGTTGGTCAAGTGACACTTAATCCTGT ACCTGGAGTGGATGGCTTCCCTGGCTAATAACTATCAGGTTGATTT GGAACAACACTGCTAAGGATCTGGGATTGGCACAAGACTCTGTACCA GCACAAAGAGCCCAATCCTTCTGGCAGTCTGGCCATCAGATCTACAGGAT GATGTGCAAAAGGCTACTCAAGAAAGACTTCTCATCCGTGTTCCAGTTC CTACGAGAGGAGACCTTCTGA	225	KADRIITMLPTSINAIEAYSG ANGILKVKKGLIDSSDID PAVSKELAKEVEMGAVFM DAPVSGVGAAARSGNLTF MVGVEDEFAAQAELLGC MGSNVVYCGAVGTGQAAK ICNNMLLAISMIGTAEAMNL GIRGLDPKLLAKILNMSSG RCWSSDTYNVPVGVMDGV PSANNYQGGFGTTLMAKD LGLAQDSATSTKSPILLGS AHQIYRMCMCAKGYSKKDP SSVFQFLREEETF*
Shigella ospB	1	prey67637	25	CGCAGAGGAAGAGGCGGAGGTGAGACAGCCCAAGGGACCAAGACCCAG ACAGCCTTAGTTCACAGTTATGGCGTATATTGAACAGCGCGAATCTCTCAT GAGGTTACCAGTAAGCCAGTAGCCATTAGGAGTTTCAAAAACAGAAAG ATATGAGAAGATACTTACATCAAAACAGGTTCCAGCTGAGCCATCTTCCCT CCTGTCACTATCAGCAAGTCACAATCAGCTGTACACACAGACCTGGAACCT CATCAGAGAAGGAGCAGTTAGTAGAGCGCACTCGGAGAGAGGCTCAGCTT GCTGCCCTGCAGTATGAGGAGGAGAAAATAAGGACCAAGCAGATCCAGAGA GATGCTGCTCGACTTTGTCAACAAAGCATCACAAAGTCCACAAAAC AGCACCCGCTCCTAGATGGCTAGATGGTGAAGTGGCCCTTCCCATCCAGAA GGTCTCAGCACACTGATGATAGTGCCTTGTGCATGTGCTGTCAGGGTTGAA TCAAGTGGGCTGTGCTGCTACCCCTGCCTCATTCTTCTGCCCTCACGCCCTCT AAGAGTGATGACAGACCTAATGCTCTATTAAGTTCACTGCAACAGAAACAG TTCATCATTTCCCTGCATATTTCTTCTGCTGCTATCCAGAGAAATCAGCCT CAGCGCCCT	226	MILQELPDLEELFLCLNDY TVSCPSICCHSLKLHITDN NLQDWTEIRKLGVMFPSLD TLVLANNHLNAIEEPDLSLA RLFPNRLSLSHKSGLQSW EDIDKLSFPKLEEVRLGI PLLPYTTTEERRKLVIALRP SVSKLNGSVTDEREDSE RFFIRYVVDVPQEEVPFRY HELITYGKLEPLAEVDLRP

Shigella ospB	1	prey12713	26	TCATGAAGTGAATGGAAGTTGGAGCCTTTGGCAGAAAGTGAGAC CTAAGACCCAGAGCAGTGCAAAAGTAGAAGTCCACTTTAACGATCAGGTGG AAGAAATGAGCATTGCTGTGGACCAACAGTGGCAGAACTAAAGAAACAGTT AAAACTCTAGTACAATTACC		QSSAKVEVHFNDQVEEMSI RLDQTVAECLKQLKTLVQL
Shigella ospB	1	prey12713	26	AGTGGATGAGGTGCTGCAGATCCCCCATCCCTGCTGACATGCGGGGCTG CCAGCAGAACATCGGGACCGCTACTTCTGAAGGCCATCGACAGTACTG GCACGAGGACTGCTGAGTGCAGACCTCTGTGCTGCCGCTGGTGAGG TGGGGCGGCGCTCTACTACAACTGGGCCGGAAGCTCTGCCGGAGAGAC TATCTCAGGCTTTTGGCAAGACGGTCTCTGCGCATCCTGTGACAAGCGGA TTCGTGCTATGAGATGACAAATCGGGTGAAAGACAAAGTGTACACCTGGA ATGTTTCAAGTGCGCGCTGTGAGAACATTTCTGTGAGGTGACAGATAC CTCCTCACTCACTGACATAGTGTGCGAACAGGACATCTACGAGTGGACTA AGATCAATGGGATGATATAG		VDEVLIQPPSLTTCGGCQQ NIGDRYFLKAIDQYWHEDC LSCDLGCGRLGEVGRRLYY KLGRKLCRRDYLRLFGQD GLCASCCKRIRAYEMTMRV KDKVYHLECFKCAACQKHF CVGDRYLLNSDIVCEQDIY EWT KINGMI*
Shigella ospB	1	prey67836	27	CCTGAAGACAGCTGGCAAGTCTGAACCTTCCAGCAAGTTGCCAAAGCAACTT AAAAAGCAGCAAGACTCTTTAGATGTCGTGGACTCTTCGGTCTCTCTTTATG TCTGTCTAACACGGCATCATCTCATGGGACGAGAAACTATTTACAGATTTAT CCAAATCTCCATTCTACGAGCTGCCTCAGTAATGAGGCCCTGGGAATGGA AGGACCATTTGGCCAGACCAAAATTCCTGGAAGACAAAGCCCTCAGTTCATCAGC AGAGGAACCTTCAACCCGGAAAGGCGCAACAAATTAAGAAATGTGAAAA ACTCACCTCAGAAACCAAGAGAGACCCAGAGGGACAGTCATGTCTGGCC GCAGAAAACTGTGGACCCAGACTGCACCTCCAAACCAACAGC	228	LKTAGKSEPSKLRQLKK QQDSLVDVSSVSSLCLSN TASSHGTRKLFQIYSKSPFY RAASGNEALGMEGPLGQT KFLEDKQFISRGTFNPEK GKQKLNKNSPQKTETP EGTVMSGRRKTVDPDCTS NQK
Shigella ospB	1	prey700	28	ATGGGAATTGGTCTTTCTGCTCAAGGTGTGAACATGAATAGACTACCAGGT GGGATAAGCATTCATATGTTACCATGGGATGATGACATTCGTTTGTCT TCTGGAACCTGGACAACCTTATGGACCACTTCACTACTGGTATGTCATTG GCTGTTGTTAATCTTATCAACAATACCTGCTTTACACCAAGAAATGGACAT AGTTAGGTATTGCTTCACTGACCTACCGCCAAATTTGATCCTACTGTGGG GCTTCAACACCCAGGAGAGTGGTCGATGCCAATTTGGGCAACATCCTTTC GTGTTTGATATAGAAGACTATATCGGGAGTGGAGAGGAGAAATCCAGGCAC AGATAGATCGATTTCTATCGGAGATCGAGAGGAGAAATGGCAGACCATGAT ACAAAAATGGTTTCATCTTATTTAGTCCACCATGGTACTGTGCCACAGCAG AGGCCTTTGCAGATCTACAGACCAAGCCGTTCTAGAAGAAATAGCTTCCAT TAAGAAATAGACAAAGAAATTCAGAAATTTGGTATTAGCAGGAAGAAATGGGAGAA GCCATTGAAACAACACAACAGTTATACCCAAAGTTTACTTGAAG	229	MGIGLSAQGVNMNRLPGW DKHSYGYHGGDGHGSCSS GTGQPYGPTFTTGDVIGCC VNLINNTCFYTKNGHSLGIA FTDLPPNLYPTVGLQTPGE VVDANFGQHPFVFDIEDYM REWRTKIQAQIDRFPIGDR EGEWQTMQIMVSSYLVA HGYCATAEAFARSTDQTV EELASIKNRQRIQKLVLAGR MGEAIETTQQLYPSLLE
Shigella ospB	1	prey67844	29	TTCCATACAGGAACCCCATCTGAAGGTCAACCAACATCAAGAACCAAGGTAG ATAAATCCACGAAGTTGAGGAAAAACCCAGTGCAAAAGGCTGAGAATCCAA AAACCAAGAAAGGCTCTTCTCCTCCAAAGGATCAAAACTCCTCGCCAGCAAGG GAACAAAAACCCAGATGGAGAAATGAGTTTATGAATTTACAGAAATAGGCTTCA GAAGGTGGGTAATAACAAGTAAGCTAAAGGAGCATGTTCTAACCCCAATGCAA GGAAGTTAAGAACCTTGAAAAAAGGTTATG	230	FHTGTPSEGHQHQRPKVD KSTKLKKNQCKKAENSKN QKGSPPKQDNSSPAREQ NQMEFEDELTEVGFRRW VITSKLEHVLTCCKEYKNL EKRL

Shigella ospB	1	prey67853	30	<p>GCCGTGGACGGTGAGGGTGC CGGCCCTCACCTCGGAGGCATGGAAGTACCA GGTTACTTCACATCGAGAGACCGTTTTCTCTTTCCAGTCGGCTGCGGTTG GCACTGAAGAATCTTGGTGCTGACAGACACAGAGCAGGCTCTCTCGTGAA CAGGAGTTGCTGGTCTGTTTCAGTTTGATGAGTGGCAGAAAATGAGACGATG GGAAGTGTGTGTGGCCCTNTTTTNGTGCTNNGNNGNNN</p>	231	<p>AVDGEAGLTSEAWKYQV TSHREDRFLSSRLRLAK NLGADRHRAAGSLVEQELS GLFSLMSGRK*DDGKCVC GPXFXCXGX</p>
Shigella ospB	1	prey66272	31	<p>ATGTGGCCCTGGTCAAGCAGGTTTTGCCAACCTCACCGAGGGACTGAAA GTGTGGCTGGGATCATGCTGCCGTGTGCTGGGCATCAAGTCTCTGTCTCCC TTTTGCCATCACATACCTGGATCGGCTGCTCTCTGATGCATCCCAACCTTACCA AGGGCTTCGGCATGATTGCCCCAAAGGACTTCTTCCACTTCTGGACTTTGC CTATATGCCGAACAACCTCCCTGACACCCAGCCTGCAGGAGCAGCTGTGTCA GCTTACCCCGACTGAAAGTGTGGCATTTGGAGCAAGGCCGATTCCAC CCTGCATACCTACTTCCCTTCTTCTGCTCCAGAGCCACCCCTAGCTGCC CCTGAGATGAAGAAAGACTCCTGAGCAGCCTGACTGAGTGCCTGACGGTG GACCCCTCAGTGCACGCTCTGGAGGCAGCTGTAACCTAAGCACCTGTCA CAGTCCAGCCTTCTGCTGGAGCACTTGTCTCAGCTCCTGGGAGCAGATTCCC AAGAAGGTACAGAAGTCTTTGCAAGAAACCATTCAGTCCCTCAAGCTTACCA ACCAGGAGCTGCTGAGGAAGGCTAGCAGTAACAACCAAGGATGCTGTCACT GTGACATGGCTGCAAGGGCCTGTTGCAGCAGGTTCAAGGCTCCTCGGCTGC CCTGGACGGGCTCCTCTGTTGCTGCTGCTTCTCGCTGAGGCTTCCCTGT GCCATGACCTCCGGTCACACAGCTCCTTCCAGGCCTCCCTTACTGGCCGGT TGCTTCGATCATCTGGCTTCTTACCTGCTAGCCAAACAGCGTGTGCCAAGCT CTACTCCTACAGCTGCAAGGCTACAGCTGGCTGGGGGAGACACTGCCGCT CTGGGCTCCACCTGCTCACCGTGTGCGGCCAGCTTGCAGCTGGCCT GGGCTCACACCAATGCCACAGTACAGTTCCTTTCTGCCACTGTGCCCTCTCA CCTTCGCTGGTTTGGTGACAGTCTCACAGTCTCTCTCAGAGGCTACAGATC CAGTCCCCGATTCCGTGAATCAGTACTCCGCTATCTCAGAGAGCTGCC CTGCTTTTCCACCAGAATGTGCTGCTGCCACTGTGGCACCCTTGTCTTGAGG CCCTGGCTGGGCCAGGAGCACTGCCACTGAGGCATGCAGAGGTGAGGTG ACCTGGGACTGCATGAAGACACAGCTCAGTGAGGCTGTCCCACTGGACCTGG CTTTGCCTACAGGACATTACAGTGGCTTCTTGGACTGGGCACCTTGCCCTGA TATCCACGACGATAG</p>	232	<p>MWALGQAGFANLTEGLKV WLGIMLPVLGKLSLSPFAITY LDRLLMHPLNLTGFGMIG PKDFFPLDFAYPNNSLT PSLQEQLCQLYPRKVLAF GAKPDSLTHTYFPSLSR TPSCPPMKKELLSSLTE LTVDPLSASVWRQLYPKHL SQSSILLEHLLSSWEQIPKK VQKSLQETIQSLKLTNQELL RKSSNNQDVVTCDMACK GLLQVQGPRLPWTRLILL LLVFAVGFLCHDLRSHSF QASLTGRLLRSSGFLPASQ QACAKLYSYSLQGYSWLG ETPLWGSLLTIVRPSLQ LAWAHTNATVSFLSAHCAS HLAWFGDSLTSLSQRLQIQ LPDSVNQLRLRYLRELPLLFH QNVLLPLWHLLLEALAWAQ EHCHEACRGEVTWDCMKT QLSEAVHWLWLCQDITVA FLDWALALISQQ*</p>
Shigella ospD1	2	prey700	32	<p>ATGGGAATTGGTCTTTCTGCTCAAGGTGTGAACATGAATAGACTACCAAGTT GGGATAAGCATTCATATGTTACCATGGGATGATGGACATTCGTTTTGTCT TCTGGAACTGGACAACCTTATGGACCAACTTTCACACTAGTGGTATGTCATTG GCTGTGTGTTAATCTTATCAACAATACCTGCTTTTACACCAAGAATGGACAT AGTTTAGGTATTGCTTTCACTACCTACCGCCAAATTTGTATCCTACTGTGG GCTTCAACACACAGGAGAAGTGGTCGATGCCAATTTTGGGCAACATCTTTTC GTGTTTGATATAGAAGACTATATCGGGAGTGGAGAACCACCAAAATCCAGGCAC AGATAGATCGATTTCCTATCGGAGATCGAGAAGGAGAAATGGCAGACCATGAT</p>	233	<p>MGIGLSAQGVNMNRLPGW DKHSYGYHGDDGHGFCSS GTGQPYGPTFTTGDVIGCC VNLINNTCFYTKNGHSLGIA FTDLPNLYPTVGLQTPGE WVDANFGQHPFVFDIEDYM REWRTKIQAQIDRFPIGDR FGEWQTMIOKMVSSYI VH</p>

Shigella ospD1	2	prey2492	33	ACAAAAATGGTTTCATCTTATTTAGTCCACCATGGGTACTGTGCCACAGCAG AGGC CACCAACCTAAAGAGACAGGCTAACAAAGAGAGTGAGGGCAGCCTGGCCTA TGTAAGAGCGGTCTCAGTACATCTTGAAGCACAGGATGCCCTCTCAGCC ATCCATCAAAAAGTAGAAGCAGATGGAACGGAAAAAGTAGAAGGATCCATGA CGCAGAACTGGAGAATGTTCTGAACAGAGCAAGTAATACTGCAGACACATT GTTTCAAGAAGTATTAGGTGGAAAGACAGGAGGATCCACTAGAAATGCA CTCAATGTGCTTCAGCGATTAAAGTTCTTTTCAACCTTCCCTCTAAATATTGAA AGGAATATTCAAAAGGGTGATTATGATGTGTTTAAATGATTATGAAAAGGC CAAGTCACTTTTGGGAAAACGGAGGTGCAAGTTTCAAGAAATATTATGCTG AAGTAGAAACAAGGATTGAAGCTTTAAGAGAAATTACTCTGGATAAATTGCTT GAGACCATCAACTTACATGACCAAAAACGTTACATAAGGTACCTGTCTGA CCTTATGCGTCTGTGACCTGCTTGGCAATGCATTGGAGCCCAACACAAG TGGATCCTTCAGCTCATGCACAGTTCGAAAGAGGGTACGTGAAAGATCTGA AAGTAACCCAGGCTGCACAGTCCCATGTTGGATCTTGATAATGATACACG TCCCTCAGTGTGGGCCATCTCAGTCAGACAGCGTCCCTGAAGAGGGCAG CAGCTTTCAGTCTGGTCGAGCAGACAGTGGAGATACAAAACCTCCCAACAG GGTGGCCTTTGTTGAAAAATTGACAAAACCTGCTTGGCCAGCTGCCTAAC TTCTGAAACTCTGGATCTCCTACGTTAATGGAAGCCTCTTCAGTGAGACTG CTGAGAAGTCAGGCCAGATTGAAAGATCAAAGAAATGTAAGCAAGACAAAA TGATTTAAGAAATGATTGAGGAAGTAAATGCATCCCTGGTGAAGCTTACCC GGGAGCCCTGCATCCCTCAGCATCCGGATCGGAGGGAAGCCAGCAGTAC GGAGCTGGAGGTGAAGTCGAGCTCTCCGACAGTGGCTCGCTCAGCG CATCCAGACTGAAGACTTACTACTGAATCGTTGACTGCCCTGAAATTCCTA ATGACCTGTTACAGACTATCCAGGATCTCATCTTGGATCTCCGAGTACGTTG CGTAATGGCCACGTTGCAGCACACGGCGGAAGAAATAAGAGATTAGCTGA AAAAGAAGACTGGATTGTTGACAAATGAAGGACTGACTTCTTACCATGTGAG TTTGAACAGTGTCATCGTGTGTTCTCTGAGTCACTGAAGGGGTTCTGGAGT GCAAGCCGGGAGAGGCTAGTGTCTTCCAAACACCTAAACACAGGAGGAGG TTTGCCAGCTAAGCATCAATATAATGCAAGTTTTTATATCTGTCTGGAACAG TTGAGCACCAAGCCTGATGCAGATATAGATACTACACATCTCTGTGTGATGT TTCTCCCTGACTGTTTGGAAAGTATCCATGAAGACTTCAGCTTGACCTCAG AACAGCGGC	234	HGYCATAE TNLKRQANKSEGLAYVK GGLSTFFEAQDALSAHQK LEADGTEKVEGSMQKLEN VLNRASNTADTLFQEVLR KDKADSTRNALNVLQRFK LFNLPLNIERNIQKGDYDV INDYEKAKSLFGKTEVQVF KKYYAEVETRIEALRELLD KLETPSTLHDQKRYRYL DLHASGDPAWQCIGAHK WILQLMHSCKEGYVKDLKG NPGLHSPMLDLNDTRPSV LGHLSTASLKRGSFQSG RDDTWRYKTPHRVAFVEK LTKLVSQLPNFWKLWISY VNGSLFSETAEKSGQIERS KNVRQRQNDFFKMIQEV HSLVKLTRGALHPLSIRDGE AKQYGGWEVKCELSGQWL AHAQTVRLTHESLTALEIP NDLLQTIQDLILDLRVRCVM ATLQHTAEIKRLAEKEDWI VDNEGLTSLPCQFEQCIVC SLQSLKGVLECKPGEASVF QQPKTQEEVCQLSINIMQV FIYCLEQLSTKPDADIDTTH LSVDVSSPDLFGSIHEDFS TSEQR
Shigella ospD1	2	prey67651	34	CAGTATAAGAGGCGCTTAGAGAAATGAAACAAATGAGGAGAAATCTGGCACAC CAGGAGCTGATAAAGCAGAAAAAGATATAAGTATACAGTTAAGCTCANCCC AGTCTCGTTGTACTCTCTAGAGAAGCACTAGAAATACAAAGAGAAATGGTT CTCAACGTAGGAGCGAGAAAGAACATGATCCTAGAACAAACAGGCCAGCTT CAGAGGAAAAAGAACAAAGATCAGATGAAGCTGTATGCAAAACTTGAAAAAGC TTGATGTCTTANAAAAAGAGTGTTCAGAGCTTACAACAACCTCAGN	235	QYKKALENETNEEKSGTPG ADKAEKRYKYTVKLXPVSL YSSREATRIYKENGSSQRRS EKRT*S*NNRPSFRGKKNKI R*SCMQNLKSLMSXKKSVS DLQLX

Shigella ospD1	2	prey67653	35	CCCTGAAATCTGCAAAATGGCTGATAATTTGGATGAATTTATTGAAGAGCAAA AAGCCAGATTGGCCGAAGACAAAGCAGAGTTGGAAGTGATCCACCTTACAT GGAATGAAGGAAAGTTGTACGCAAGCTTCTGAAAACAGTAAGATACTG ATCTCTATGGCTAAGGAAACATACCACCAATAGTCAACAGACCAGGGTT CCTTAGGAATTGATTATGGATTAGTTTACCCTTGGAGAAGACTATGAACGG AAGAAACATAAATTAAGAAGAAATTGGC	236	PEICKMADNLDEFIEEQKAR LAEDKAELESPPYMEMK GKLSAKLSENKILISMAKE NIPPNSQQTRGSLGIDYGL SLPLGEDYERKKHKLKEEL
Shigella ospD1	2	prey67667	36	CGACCAGGGCACACCCAGTACATGGAGAACAATGGAGCAGGTGTTTGAGCA GTGCCAGCAGTTCGAGGAGAAACGCCCTTCGCTTCTCCGGGAGGTTCTGCT GGAGGTTGAGAACACCTAAACCTGTCCAATGTGGCTGTACAAAGCCATT TACCATGACCTGGAGCAGACATCAGAGCAGCTGATGCAGTGGAGGACCTG AGGTGGTCCGAGCCAAATCACGGCCAGGCATGGCCATGAACCTGGCCGCA GTTTGAAGAGTGGTCCGAGACCTGATTCGAACCTCAGCCGGAGAGAGAA GAAGAAGGCCACTGACGGCTTACCCTGACGGGCATCAACCAGACAGCGGA CCAGTTTTGCCGAGTAAGCCCGACGAC	237	DQGTPOYMEMEQVFEQC QQFEEKRLFFREVLLVQ KHLNLSNVAGYKAIYHDL QSIRAAADVEDLRWFRANH QPGMAMNWPOFEEWSAD LIRTLRREKKKATDGFLL GINQTDGQFLPSKPSS
Shigella ospD1	2	prey67657	37	CCCGCTGCCATGGAATGGATCTCCAGTGCATCTCCTACCATGCCCCCGA GGCTCTGCTGACCGAGATGATGAAAGGTGTAAGAACTAGGAACAATGC CTTGCTGTTGAATCTGTGATGTCTGCCCTCCGGGTGAGTTTCATCGCCACA AGGTCTATGGATTTCAATGGCATGATTAAGAGTGTGATGAATCTGTTTCCC CAAGCATCTCTTTTCGATCACTGGAATTAAGTGGCCCTGGCTGATCCTC CTGAGAGTACCCGACTTCAGATCTCAACGAAGCTTGGAAAGTCATCACTAA GCTGAAGAACCCACAGGACTACATTAATGTGCCGAAGTGGGTGGAAATAC ACCTGCAAGCATTCACGAAACGAGAGTGAATACCGTTTGGCAGATGTCA TCAAGCACATGACTCCAGATCGTGATTTGAAGATCTCACCOCAGCTTCA GTTAATAATTAAAGAAATTATGCCACTTCCATGACTCTCAGTCTTTTCTC AGTGGAATAATTTCTGCCGTTTCTGGACATGTTCCAAAAGAGAGTGTGCGG GTGGAGGTTTGCAATGCATCATGGACGCTTTATCAAGCATCAACAAGAGC CCACCAAGGACC	238	PPAMDWIFQCISYHAPEAL LTEMMERCKKLGNALLN SVMSAFRAEFIASTRSMDFIG MIKECDESFGPKHLLFRSL GLNLALADPPESDRLQILNE AWKVITKLNPDYINCAE VWVEYTCCKHFTKRENTVL ADVIKHMTPDRAFEDSYPO LQLIKVIAHFHDFSVLFSV EKFLPFLDMFQKESVRVEV CKCIMDAFIKHQKEPTKD
Shigella ospD1	2	prey67501	38	CTTCGGCCTGGAACAGCTGGAATGCCCTTGATGATGCAGAAAAAAATTAAC TTGGCCCAAGAAATGCTTTAAAAATTTACGGAGAAAAATCATCAGAGACTGGT CCACATAAAGGAAATTTGGGAAAGAGAGGTAAGTCTTTCTAAGACTCTAC TTACTCAAGGGATCCGAAACTATCACAGTGGAAATGATGTAGAGGCTTATG AGTATCTTAACAGGCACGTCAGCTCTTTAAAGAGCTATATATTGATCCATCAA AAGTGGACAAATTTGTTCAGTTGGGTTTACTGCCAGGAAGCACCGGCTTG GCCTGAGGCGGTGTGATGGGAACGTGGATCATCGGCCACTCATATTACCA ACCGCAGAGAGGAAGTGGCCCAATAAGGAAGGAGGAAAAAGAGAAGAAAA GACGCCGCTCGAGAACATCAGGTTTCTGAAAGGGATGGGCTACTCCACGC ACG	239	FRLEQLECLDDAEKKLNL QKCFKNCYGENHQRLVHIK GNCGKEKVLFLRLYLLQGI RNYHSGNDVEAYEYLNHRH VSSLKSYLIHQKWTICCSW GLLPKRLGLRACDGNV DHAATHITNRRELAQIRKE EKEKRRRLNIRFLKGMG YSTH
Shigella ospD1	2	prey67678	39	GAACAAGCTGAGGGTGTGGACCCAGAGGTTACCCAGCAGACCATAGAGCT GAAGGAAGAGTGCAAGAGACTTTGTGGACAAAAATGGCCAGTTTCAGAAAAATA	240	NKLRVLDPEVTQQTIELKEE CKDFVDKIGQFQKIVGGGLIE

Shigella ospD1	2	prey67578	40	<p>GTTGGTGTTAATTGAGCTTGTTGATCAACTTGCAAAAGAGCAGAAAATGA AAAGATGAAGGCCATCGGTGCTCGAACTTGCTCAAATCTATAGCAAAGCAG AGAGAAGCTCAACAGCAGCAACTTCAAGCCCTAATAGCAGAAAAGAAAATGC AGCTAGAAAGGTATCGGGTTGAATATGAAGCTTTGTGTAAAGTAGAAGCAGA ACAAATGAATTTATTGACCAATTTATTTTCAGAAATGA</p> <p>ATGGCGTGGAGACTCTGTCCCGGACTGGGAGTTTGACCGCGTTGACGAC GGCTCGCAGAAAATTCATGCCGAAGTCCAACCTTAAGAAATTTATGGAAATTTCT TGAGGAGTATACCTCTCAACTGAGAAGAAATGAGGACGCTCTGGATGACTCA ATTGGAGATGTTGGGATTTCAATCTTGATCCTATAGCATTAAAGCTTTTGCC TTATGAACAGTCTCTCTTTTGAACCTCATAAAGACTGAAAACAAGGCTCTTAA ACAAAGTCATCACTGTTTATGCTGCACTTTGTTGTGAATCAAGAAATTAAT ATGAGGCTGAACTAAATTTACAATGGTCTCTTTTATGGAGAAGGAGCT ACAGATGCCAGCATGGTGAAGGTGATTGCCAAATCAAAATGGGAGATTTA TTTCATTTCTACAGAACTGCTTGCTGCTTGTACGAGTGCTATGAAGTGGTG ATGAACGTAGTCCACCACTGGCTGCCCTCTATATCAGTAACAAGATTGCAC CCAAAATTATAGAGACAACCTGGATTCATTTTCAGACTATGATGAGCACTTG GGAAACTGCTAACAGTTTGTCTACCCCTGGATGAAATTTATGATAATCATAT CACACTGAAAGCAACCTGGACTATGTACAAAGGTTACTGAAATCTGTCCAT CACAATCCTTCAAAATTTGGAATTCAGGAAGAAAATTAAGCCATTGAAAA GTTCTTGCTGAAGCTAGAAGGGCAATTAAGGAGTATGATATCCAGGCC TGATAGAACACAATTTGATTCTCTCAATGGAGGAGTATCTGTGTCAAAAA TAGTACTTTTGTGAGGAATTTGCACATAGTATCGGTCAATTTTGCAAAATG TAGAAGCCAACTTGAGAACCTTCTGAAATGACCAAGAGAGACAAGTATGT TGGAAATTTGTGAGCTCTTTGATTGCACTTTTCAGATTTTTCGAACATTGATAA AAAGTTTATAAGCTTTATTGGAC</p>	241	<p>LVDQLAKEAENEKMKKAIGA RNLLKSIKQREAAQQQLQ ALIAEKKMQLERYRYVEYA LCKVEAEQNEFIDQIFQK*</p> <p>MAVETLSPDWEFDRVDDG SQKHAEVQLKNYGKFLKE YTSQLRRIEDALDDSGDV WDFNLDPIALKLLPYEQSSL LELIKTEKNVLNKVITVYAA CCEIKLKYEAETKFYNGIK FYEGATDASMVEGDCQI QMGRFISFLQELSCFVTRC YEVVMNVVHQLAALYISNKI APKIIETTGTVHFQTMYEHLG ELLTVLLTDEIIDNHITLKD HWTMYKRLKLSVHHNPSK FGIREEKLKPFKEKFLKLEG QLLDGMIFQACIEQOQFDSL NGGVSVSKNSTFAEEFAHS IRSIFANVEAKLGEPEIDQ RDKYVGICGLFVLHFQIFRT IDKKFYKSLLD</p>
Shigella ospD1	2	prey67580	41	<p>GCACCTCCCGCGCTCCGACTCCGCCATCTCTGTCGCTCCCTGCACCTCAG AGTCCAGCATGCTCTGCGCTCCACATCTCACTGCCCGAGGAGGAGGAGG AGCCGGAGCCACTGGTGTGCGGAGCAGCCCTCGGTGAAGCTGTGCTGTC AGCTCTGCTGAGCGCTTCAAGAGACCCCGTGATCACACACGTGTGGGCACA CGTTCTGTAGGAGATGCGCTTGAAGTCAGAGAAGTGTCCCGTGACAACG TCAAACTGACCGTGGTGGTGAACAACATCGCGGTGCGCGAGCAGATCGGG AGCTCTTCACTCCGCGCACGCTGCCGGGTAGCGGCGAGCGGGAAG CCCCCATCTTTGAGGTGGACCCCGAGGGTGCCCTTCAACATCAAGCTC AGCGCCCGGAAGGACCAAGGAGGAGCTGTGACTACAGGCTGTGCGGTG TCCCAACAACCCAGCTGCCCGCGCTGCTCAGGATGAACCTGGAGGCCCA CCTCAAGGAGTGGAGCACATCAAAATGCCCCCACTCCAAAGTACGGGTGCAC GTTTCATCGGGAACAGGACACTTACGAGACCCACCTGGAGACTTGCCGCTT CGAGGGCCTGAAGGAGTTTCTGACAGCAGAGGATGACCGCTTCCACGAGAT GCACGTGGCTCTGGCCCAAGAGGACGAGATCGCCTTCTGCGCTCCAT</p>	242	<p>TPRRSDAISVRSLSHSESS MSLRSTFSLPEEEEEPEPL VFAEQPSVKLCCQLCCSVF KDPVITTCGHTFCRRCAL SEKCPVDNVKLTVVNNIA VAEQIGELFIHCRHGCRVA GSGKPPFEVDPRGCPFTIK LSARKDHEGSCDYRPVRC PNNPSCPPLRMNLEAHLK ECEHIKCPHSHKYGCTFIGN QDITYETHLETCTFEGLKEF LQQTDDRFRHEMHVALAQK DQEIATFLRSMGLKLEKID</p>

Shigella ospD1	2	prey3160	42	GCTGGGAAAGCTCTCGGAGAAAGATCGACC CAGAAACTACATGAACCTACGGTTATGCAAGATAGACGAGAACAAAGCAAGA CAAGACTTGAAGGGTTGGAAGAGACAGTGGCAAAAGAACTTCAGACTTTAC ACAACCTGGCAAACTCTTGTTCAGGACCTG	243	RKLHETVMQDRREQARQ DLKGLEETVAKEQLTLHNL RKLFDVQDL
Shigella ospD1	2	prey50427	43	ATGGAGGAGTATGAGAAGTTCTGTGAAAAAGTCTTGCCAGAAATACAAGAAG CATCACTATCCACAGAGAGCTTCTCCCTGCTCAGTCTGAAAGTATCTCACTT ATTGCTTTTCATGGAGTGGCTATCTTCTCCCTGCTTAAACATTGAGAAAAG AAAGAAATGCAACAAGAAAGCAGAAAGCACTTGATGTAGAGCAAGAAAG CAGGTTAACAGGAAGAAAGCTTTACTGACTCGTGTCCAGGAGATTCTTGACA ATGTTCAAGTTAGAAAAGCACTTAATGCCAGTGATTTGATCAGTGGGAGAT GGAACAGTTTACTCTAATTCAGAAAGTCAGAACTTGAATGTTCTGCTACAT TTCCAAATAGCTTTCCAGCCATACGGAACACTCTACTGCAGCAAGCTTGAT AAGATAGCTGGGATTTGCCATTGGATAATGAGACCAATGTAAACTGATG GAATAGACTTAGCTAGAGATTGAGAAAGATTAACTCTCCGAGCAATGTGAT AGTTCCAATATTAGTCATGTAGAAATGAAGCTTTTCCAAAGACCTCTTCAGC AACCCCAAGAACTCTTATTTCTGATGTCCTCTCAGTAAATGAACAAC AGGATCTACCACTTTTGGCAGAGTCATCCAGATCCCTATGTAATGAGCTT CAGAATCTGATGAAAGTCAAGGAATATATAGAAAGAAACAATCTAGAC GCAGTCTGAGAGGTAGTGAACAGAAATGTTAATGAGAGTCAATTTAGACAA AGAACATGATGCTTTGAAGTGGCTGACTGTGTAAGAGAAAGGCCAGTTG ACAGGCAACACTGTGCTCAGTTATCTGACAAACCAAGCCTTAATAATC AAATGTTCTTCCAAAGGTGCTCAGTTATCTGACAAAGCAAGCATGATGCCA GTTTATAGCTTTCGAAAGTGGACATACCTATACGAACTGGCCATCCCA CTGTTCTAGAGTCTAATCTGATTTAAAGTTATCCCACTATTGTTACCGAAA ATAATGTTATCAAAAGTCTTACAGGTTCAATGCCCCAAATACCTAGTCCAGAG CCAAAGTATGATCTCTAAATGCACCGAAGACGT	244	MEYEKFCESKLARIQEA LSTESFLPAQSESLIRFH GVALSPLNIEKRKEMQOE KQKALDVEARKQVNRKKAL LTRVQEILDNVQVRKAPNA SDFQWEMETVYSNSEVR NLNVATFPNFPSPSTHEH TAAKLDKIAGILPLDNEQ KTGDIDLARDSEGENSPKQ CDSSNISHVENAEFPKTSS ATPQETLISDGPFSVNEQQ DLPLAEVIPDPYVMSLQNL MKKSKEYIEREQRRSLRG SMNRIVNESHLDKEHDAVE VADCVKEKQLTGKHCVS VIPDKPSLNKSNVLLQGAST QASSMSMPVLASFASKVDIPI RTGHPTVLESNSDFKVIPTI VTENNVKSLTGSYAKLPSP EPSMSPKMHRRR
Shigella ospD1	2	prey63765	44	GGACAGCCCAACCTCTGGCAGACCAGGGTTACCAAGCTCACAACCTGCAGC TGCCTTCAAGCCTGTAGATCCACTGGCTCATCAAGTCAACCAAGCTGGCAA CGGCCAAACCAAGGAGTACCTTCCACTGGAAGAAATCTCAAAACAGCGCTACTT ACTCAGGATCAGTGGCACCAGCCCAACTCAGCTTTGGGACAAACCCAGCCAA GTGACCAGGACACTTTAGTGCAAGAGCTGAGCACATTCAGCAGGGAAC GAACTCCGATGTGCGCCCATTTAACCAGGTCATCAGAGGACCATCTTAGT GGCACTGGGAAATCTTGGCACCAGAGAAATTCAACTCGCTCACTGCAA AAATACAATGGCCATACATTGGATTTGTAGAGGAGAAAGAGCCCTGTATTGT GAGCTGTGCTATGAGAAATCTTTGCCCTGAATGTGGTCGATGCCAAAGGA AGATCCTTGGAGAAATCATCAATGCGTTGAAACAAACTGGCATGTTCTCTGT TTTGTGTGTAGCTGTGGAAAGCCATTCGGAACAAATGTTTTCACTTGGG GGATGGTGAACCTACTGTGAGACTGATTATTATGCCCTCTTTGGTACTATAT GCCATGGATGTGAATTTCCCATAGAAAGCTGGTGACATGTTCTCTGGAAGCTCT	245	DSPTSGRPGVTSLTTAAAF KPVGSTGVIKSPSWQRPN QGVSTGRISNSATYSGS APANSALGQTQPSDQDTL QRAEHIPAGKRTPMCAHC NQVIRGPFVALGKSWHPE EFNCAHCKNTMAYIGFVEE KGALYCELCEKFFAPECG RCQRKILGEVINALKQVWH VSCFVCVACGKPIRNVFVH LEDGEPCETDYALFGTI CHGCEFFIEAGDMFLEALG YTWHDTCFVCSVCCESLE

Shigella ospD1	2	prey67623	45	GGGCTACACCTGGCATGACACTTGCTTTGTATGCTCAGTGTGTGTGAAAGT TTGGAAGGTCAGACCTTTTCTCCAGAAAGGACAAGCCCTGTGTAAAGAAC ATGCTCATCTGTGAATTTTGA		GGGCTACACCTGGCATGACACTTGCTTTGTATGCTCAGTGTGTGTGAAAGT TTGGAAGGTCAGACCTTTTCTCCAGAAAGGACAAGCCCTGTGTAAAGAAC ATGCTCATCTGTGAATTTTGA		GQTFFSKKDKPLCKKHAHS VNF*
Shigella ospD1	2	prey67623	45	ATTTATAGGAGGCATACACCATACATGTTACAGCCAGAGTACCGAATCTAT GAGATGAACAAGAGACTGCAGTCTCGCACAGAGGATAGTGACAACCTCTGG TGGACGCTTTGCCACTGAATTTTGAAGATGACGCCACATTAAACCTTTTC ATTTGTTTGAAGATGACCAAGCGATACACTATCGGCAGGACCCCTCATC CCCCGTTACTTTAGCACTGTGTTTGAAGGAGGGGTGACCGACCTGTATTACA TTCTCAAACTCGAAAGAGTATACCCACAACTCATCCATCAGCGTGGACTG CGACCAAGTACCATGGTACCCAGCACGCGGAGCCCATGTTTACCAAGGT ATGTACAGAAGGCAGACTGATCTTGAGTTCACCTTTGATGATCTCATGAGA ATCAAAACATGGCACTTTACATTAGACAATACCGAGAGTTAGTCCCGAGAA GCATCCTAGCCATGCATGCACAAGATCCTCAGTCTCGGATCAGCTGTCCAA AAACATCACCAGGATGGGCTAACAACTTCAACCTCAACTACCTCAGGTTG TGTGTAATTTGGAGCCAAATGCAGGAACATGATGTCGAGACATAAACTTACA ACCTCAGTCCCCGAGACTGCCTGAAGACCTGCTTGTTCAGAAAGTGGCAGA GGATGGTGGTCCGCCAGCAGAACCCACAAAGGCAACCAA		ATTTATAGGAGGCATACACCATACATGTTACAGCCAGAGTACCGAATCTAT GAGATGAACAAGAGACTGCAGTCTCGCACAGAGGATAGTGACAACCTCTGG TGGACGCTTTGCCACTGAATTTTGAAGATGACGCCACATTAAACCTTTTC ATTTGTTTGAAGATGACCAAGCGATACACTATCGGCAGGACCCCTCATC CCCCGTTACTTTAGCACTGTGTTTGAAGGAGGGGTGACCGACCTGTATTACA TTCTCAAACTCGAAAGAGTATACCCACAACTCATCCATCAGCGTGGACTG CGACCAAGTACCATGGTACCCAGCACGCGGAGCCCATGTTTACCAAGGT ATGTACAGAAGGCAGACTGATCTTGAGTTCACCTTTGATGATCTCATGAGA ATCAAAACATGGCACTTTACATTAGACAATACCGAGAGTTAGTCCCGAGAA GCATCCTAGCCATGCATGCACAAGATCCTCAGTCTCGGATCAGCTGTCCAA AAACATCACCAGGATGGGCTAACAACTTCAACCTCAACTACCTCAGGTTG TGTGTAATTTGGAGCCAAATGCAGGAACATGATGTCGAGACATAAACTTACA ACCTCAGTCCCCGAGACTGCCTGAAGACCTGCTTGTTCAGAAAGTGGCAGA GGATGGTGGTCCGCCAGCAGAACCCACAAAGGCAACCAA	246	FYRRHTPYMVQPEYRIEM NKRLQSRTESDNLLWWDA FATEFFEDDATTLSFCLED GPKRYTIGRTLIPRYFSTVF EGGVTDLYILKHKSSEYH NSSITVDCDQCTMVTQHGK PMFTKVCTEGRILEFTFDD LMRIKTWHFTIRQYRELVE RSILAMHAQDPQVLDQLSN NITRMGLTNFTLNYLRLCVI LEPMQELMSRHKTYNLSPR DCLKTCLFQKWQRMVAPP AEPTRQP
Shigella ospD1	2	prey7315	46	ATGCTGGATAGGATGTGGGCCCACTCCCATGTATCCGCCCTACATACCTG GAGCCAGGATTTGGAGGCACACACCATATGGCAACCAACTGACTACAGA ATATTTGAGCTTAACAACCGCTTCAGAACTGGACAGAGGAGTGTGACAATC TCTGTGGATGCATTCACGACTGAGTCTTTGAGGATGATGCCATGTTGAC CATACCTTTCTGCTGGAGATGGACCAAGAGATATACCATTTGCCGCGGACC CTGATCCACGCTACTTCCGAGCATCTTTGAGGGGGGTGCTACGGAGCTG TACTATGTTCTTAAGCACCCCAAGGAGGATCCACAGCAACTTTGTGTCCTC TCGACTGTGACCCAGGCGAGCATGGTACCCAGCATGGCAAGCCCATGTTCA CCAGGTGTGTGGAGGGCGGTTGTACCTGGAGTTCATGTTTGACGACA TGATGCGGATAAGACGTTGGCACTTCAGCATCCGGCAGCACCGAGAGCTCA TCCCCCGCAGCATCCTTGCCATGTCATGCCCAAGACCCCGAGATGTTGGATC AGCTCTCCAAAACATCACTCGGTGTGGCTGTCCAAATCCACTCTCAACTA CCTCCGACTCTGTGTGATACTCGAGCCCATGCAAGAGCTCATGTACGCCAC AAGACCTACAGC		ATGCTGGATAGGATGTGGGCCCACTCCCATGTATCCGCCCTACATACCTG GAGCCAGGATTTGGAGGCACACACCATATGGCAACCAACTGACTACAGA ATATTTGAGCTTAACAACCGCTTCAGAACTGGACAGAGGAGTGTGACAATC TCTGTGGATGCATTCACGACTGAGTCTTTGAGGATGATGCCATGTTGAC CATACCTTTCTGCTGGAGATGGACCAAGAGATATACCATTTGCCGCGGACC CTGATCCACGCTACTTCCGAGCATCTTTGAGGGGGGTGCTACGGAGCTG TACTATGTTCTTAAGCACCCCAAGGAGGATCCACAGCAACTTTGTGTCCTC TCGACTGTGACCCAGGCGAGCATGGTACCCAGCATGGCAAGCCCATGTTCA CCAGGTGTGTGGAGGGCGGTTGTACCTGGAGTTCATGTTTGACGACA TGATGCGGATAAGACGTTGGCACTTCAGCATCCGGCAGCACCGAGAGCTCA TCCCCCGCAGCATCCTTGCCATGTCATGCCCAAGACCCCGAGATGTTGGATC AGCTCTCCAAAACATCACTCGGTGTGGCTGTCCAAATCCACTCTCAACTA CCTCCGACTCTGTGTGATACTCGAGCCCATGCAAGAGCTCATGTACGCCAC AAGACCTACAGC	247	MLDRDVGPIMPYPPTYLEP GIGRHTPYGNQTDYRIFEL NKRLQNWTEECNLLWWD AFTTEFFEDDAMLTTFCLE DGPKRYTIGRTLIPRYFSI FEGGATELYVVLKHPKEAF HSNFVSLDCDQGSMVTQH GKPMFTQVCVEGRLYLEF MFDDMMRIKTWHFSIRQH RELIPRSILAMHAQDPQML DQLSKNITRCGLSNSLTNLY RLCVILEPMQELMSRHKT S
Shigella ospD1	2	prey67601	47	AGTCACTGCTTCAACCCACCTGTGAGAAATTAGAAAAAGCCAGGAATGAGTTA CAACACAGTGTATGAAGCATTCGTCCAGCAGCAGCAGGCTGAAAAACAGAAC GAGAGAAATCGGCTTAAAGAGTTTACACAGGGAGATGAAAAAGCTTCGGGA CACTTACATTGAAGAAGCAGAGAAGTACAAAATGCAATTGCAAGAGCAGTTT GACAACCTAAATGCTGCGCATGAAACCTCTAAGTTGAAATTTGAAGCTAGCC ACTCAGAGAAACTTGAATTTGCTAAAGAAGGCCCTATGAAGCCTCCCTTTTCAGA AATTAAAGAAAGGCCATGAAATAGAAAAGAAATCGCTTGAAGATTTACTTTCTG AGAAGCAGGAATCGCTAGAGAAGCAAAATCAATGATCTGAAGAGTGAAAAATGA		AGTCACTGCTTCAACCCACCTGTGAGAAATTAGAAAAAGCCAGGAATGAGTTA CAACACAGTGTATGAAGCATTCGTCCAGCAGCAGCAGGCTGAAAAACAGAAC GAGAGAAATCGGCTTAAAGAGTTTACACAGGGAGATGAAAAAGCTTCGGGA CACTTACATTGAAGAAGCAGAGAAGTACAAAATGCAATTGCAAGAGCAGTTT GACAACCTAAATGCTGCGCATGAAACCTCTAAGTTGAAATTTGAAGCTAGCC ACTCAGAGAAACTTGAATTTGCTAAAGAAGGCCCTATGAAGCCTCCCTTTTCAGA AATTAAAGAAAGGCCATGAAATAGAAAAGAAATCGCTTGAAGATTTACTTTCTG AGAAGCAGGAATCGCTAGAGAAGCAAAATCAATGATCTGAAGAGTGAAAAATGA	248	VTASTTCEKLEKARNELOQT VYAEFVQQHQAETEREN RLKEFYTREYKLRDITYEE AEKYKMLQEQDFDNLNAA HETSKLEIASHSEKLELLK KAYEASLSEIKKGHEIEKKS LEDLLSEKQESLEKQINDLK SENDALNEKLKSEEQKRRRA

					TGCTTTAAATGAAAAATTGAAATCAGAAGAACAACAAAAAGAGAGCAAGAGAAA AAGCAAAATTTGAAAAATCCTCAGATCATGTATCTAGAACAGGAGTTAGAAAGC CTGAAAGCTGTGTTAGAGATCAAGAAATGAGAACTGCATCAACAGGACATCA AGTTAATGAAAAATGGAGAACTGGTGACAAACACACAGCATTTGGTTGACAA ATTGAAGCGTTTCCAGCAGGAGAAATGAAGAAATTGAAAGCTCGGATGGACAAG CACATGGCAATCTCAAGGCAGCTTTCACGGAGCAGGCTGTTCTGCAAGAG TCGCTGGAGAAAGAGTCGAAAGTCAACAAAGCCGACTCTCTATGGAACACGAG GAGCTTCTGTGAAACTGCACAAATGGGGACCTGTGTAGCCCCAAGAGATCC CCACATCCTCCGCCATCCCTTTCAGTACCAAGGAATTCGGGCTCCTCTCC CTAGCCCCAGCATTCACCCAGATGA			REKANLKNPQIMYLEQELE SLKAVLEIKNEKLHQQDIKL MKMEKLVNDNTALVDKLR FQENEELKARMDKHMALIS RQLSTEQAVLQESLEKESK VNKRLSMENEELLWKLHN GDLCSPKRSPSSAIPLOS PRNSGSFPSPSISPR*
Shigella ospD1	2	prey53735	48		CTCGCTTCTCCTAGCACTGGGACATTTCAAGAAGCTCAGAGCCGGTTGAAT GAAGCTGCTGCTGGCTGAATCAGGCAGCCACAGAACTGGTGACGGCTCT CGGGAAACCCCTCAGGACCTGGCTCGAGCCTCAGGCCGATTTGGACAGGA CTTCAGCACCTTCTGGAAGCTGGTGTGGAGATGGCAGGCCAGGCTCCGAG CCAGGAGGACCGAGCCCAAGTTGTGTCCAACTTGAAGGGCATCTCCATGTC TTCAAGCAAACTTCTTGGCTGCCAAGGCCCTGTCCACGGACCCCTGCTGCC CCTAACCTCAAGAGTCAGCTGGCTGCAGCTGCCAGGGCAGTAACTGACAGC ATCAATCAGCTCATCACTATGTGCACCCAGCAGGCCACCGGCCAGAAAGGAG TGTGATAACGCCCTGCGGGAATTGGAGACGGTCCGGAACTCCTGGAGAAC CCAGTCCAGCCCATCAATGACATGTCTACTTTGGTTGCCTGGACAGTGTA TGGAGAACTCAAAAGGTGCTGGCGAGGCCATGACTGGCATCTCCCAAAATG CCAAGAACGGAACCTGCCAGAGTTTGAGATGCCATTTCCACAGCCTCAAA GGCCTTTGTGGCTTACCGAGGACGCTGCACAGGCTGCATATCTGGTTGG TGCTCTGACCCCAATAGCCAAGCTGGACAGCAAGGGCTAGTGGAGCCAC ACAGTTTGCCCGTGCAAAACCCAGGCAATTCAGATGGCTGCCAGAGTTGGG AGAGCCTGGCTGTACCCAGGCCAGGTGCTCTCTGCAGCCACCATTTGTGGC TAAACACACCTCTGCACTGTGTACAGCTGTGCGCTGGCTTCTGCCCGTACC ACCAATCCTACTGCCAAGCGCCAGTTTGTACAGTCAGCCAAAGGAGGTGGCC AACAGCACAGCTAATCTTGTCAAGACCATCAAGGCCGCTAGATGGGGCTTCA CAGAGGAGAACCGTGCCCAAGTGCCGAGCAGCAACAGCCCTCTGCTGGAG GCTGTGGACAATCTGAGTGCCTTTGCGTCCAAACCTGAGTTCTCCAGCATTC CTGCCAGATCAGCCCTGAGGGTGGGCTGCCATGGAGCCCATTTGTGATCT CTGC	249	SLPSTGTGFQEAQSRLENE AAGLNQAAATLVQASRGTE QDLARASGRFGQDFSTFLE AGVEMAGQAPSQEDRAQV VSNLKGISMSSSKLLAAKA LSTDPAAPNLKSQLAAAAAR AVTDSINQLTMTCTQAPG QKCEDNALRELETVRELLE NPVQPINDMSYFGCLDSVM ENSKVLGEAMTGISQNAKN GNLPEFGDAISTASKALCG FTEAAQAAYLVGVSDPNS QAGQQGLVEPTQFARANQ AIQMACQSLGEPGCTQAAQ VLSAATIVAKHTSALCNSCR LASARTTNPTAKRQFVQSA KEVANSTANLVKTIKALDGA FTEENRAQCRAATAPLLEA VDNLSAFASNPEFSSIPAQ SPEGRAAMEPIVIS	
Shigella ospD1	2	prey67630	49		GAGGACCTGCAGCCACCCAGCGCCCTGTGCGGCCCTTCAACCAACAGCCTC GCTCGCTCTGCGGCCAGTCTGTGCTCCGGTATAGCACTCTCCCTGGCGGC AGGGCCCTGAAGAACTCCCGCCTAGTGAGCCAGAGGATGACGTCCACGTC TGATCCTTTGTCTCAGAGCCATCATGAACATATCAGTACGGATTCAACCTGGT CATGTCCCACCCCATGTGTCAATGAGATTGCACTTAGCCTCAATAACAAG AATCCAAGGACCAAGCCCTTGTCTTAGAGCTTCTGGCAN	250	EDLQPPSALSAPFTNSLAR SARQSVLRYSTLPGRRAK NSRLVSQKDDVHVCILCLR AIMNYQYGFNLVMSHPHAV NEIALSLNKNPRTKALVLE LLA	

Shigella ospD1	2	prey12665	50	GAAGCGGCACGAGCGAATGATCAAGAACCGGGAGTCAGCCTGCCAGTCCC GGAGAAAGAAAGAGATCTGCAGGGACTGGAGGCTCGGCTGCAAGCAG TACTGGCTGACAACACGAGCTCCGCCGAGAGATGCTGCTCCGGCGGC GGCTGGAGCCCTGCTGCTGAAACACGAGCTCAAGTTAGGTTCTGGAA ACAGGAAGGTGCTGCTGATCATGCTTCTCTCTCATTCGCTTCAACTTT GGACCTGTGAGCATCAGTGAGCTCTTCACTCCCATCTCTCGGATGA ACAAGGGGAGCCTCAACCCCGGAGACACTTCTGGGTTCTCAGAGCAAG AGCCAGTTCAGGAGTTGAACCTCTCCAGGGTCTCCAGGCCCTAAGG AGCCCCAGCCAGCCACAGACACGAGCTTTCAGCAACCTGACAGCCT TCCCTGGGGCGCAAGGAGCTACTAAGAGACCTAGACACGCTCTCC TCTCCTGATTGCGGCACTTCAACCGCACTGAGTCCCTGAGGCTTGCTGA CGAGTTGAGTGGTGGTCCAGCGCCACAGAGAGCGCGGAGGAAGATCC CTCAGAGGGCCCGAGGAGACAGAAGTCTCAGCCACGGAAGAAGTCAACCTC CAGTTAAGGCAGTCCCCATCC	251	KRHERMIKNRESACQRR KKKEYLQGLEARLQAVLAD NQQLRRENAALRRLEALL AENSELKLGSNRKVVCIM VLLFIANFGVPVISEPPSA PISPRMNKGEPQPRHLLG FSEQEPVQGVLEPLQSSQ GPKEPQSPDQPSFSLT AFPGGAKELLRLDLQLFL SSDCRHFNRTESLRLADEL SGWVQRHQRRRQIPQR QERQKSQPRKSPPVKAV PI
Shigella ospD1	2	prey67631	51	TGAGAGCGAGGTCTCGGAGCATCTCAGTGCCAGCTCGGCTTCTGCCATCCA GCAGGACAGCACTTCCAGCATGCAGCCACCATCTGAAGCCCCCATGGTGAA CACAGTCAGCTCAGCTTATTCGGAGGATTTGAAACCTCTCCAAGTCTGACA GCATCTGAGCCAAACCGCCCATTCGAAGGAGTCTCTTGACAGAACACTGGAC GCTTTGCTGAATCCTCTTCAAGTGTGAAGACAGACCTTCCACAAACAGCCG AGTCTAGGAAAAGTGGGCAGGCACGTGACAAAGAGTCTTGTGAAGGACA CAGCTGTGCAGACGCCAGATCCTGCTTCACTACGAGTGACCAAGGTGG CCAGCATGGCAGCCATGGGCGCTGCCCTGGGAGCGCCTACGTGGACCCG ACACCCATGCCAATCATGTTATCAGTGCAGATGCAATAGAAGCCCTGACCG CTTACAGCCCGGCGTGTGCTGCACTCCATGATGTGCTGAAGCAGCAGCTGA GCCTGACGCAGCAGTTTCATCCAGCCAGCGCGCACCTGCACGCCCTCCCTCC TGCGTCCCTGGACGCGGACTCCTTCCACTACCAACCTGGAGGAAGCCA AAGAGTACATTAGGTGCCACAGACCTGCCCCACTGACCATGGAGGATGCCC TGGAGGAGGTGAACAAGGAGCTGTGA	252	ESEVSEHLSASSASAIQQD STSSMQPPSEAPMVNTVS SAYSEDFENSPLTASEPT AHSKESLDRTLDALSESS SVKTDLPQTAESRKKSGRH VTRVLKDTAVQTPDPAFT YEWTKVASMAAMGPALGG AYVDTPIANHVISADAIEAL TAYSPAVLALHDVLKQQLS LTQQFIQASRHLHASLLRSL DADSFHYHTLEEAKKEYIRC HRPAPLTMEDALEEVNKE .
Shigella ospD1	2	prey20143	52	ATGGCAGAGAGCCCGCCAGGACCTGGAGGAGGAGTATGAGCCTCAGTTCTCG CGGCTCCTAGAGAGGAAAGAAAGCTGGGACCAAGCTCTGCAGAGAACCCAG GCTGAGATCCAGGAAATGAAGGAGGCTCTGAGACCCCTGCAAGCAGAGGCC CGGCAGCTCCGCTGCAAAACAGGAACCTGGAGGACCAAGATCGCACTTGTG AGGCAAAACGAGATGAAGAGGTGCAGCAGTACAGGGAACAGCTGGAGGAA ATGGAAGAACGCCAGAGGCAGTTAAGAAATGGGTGCAACTCCAGCAACAG AAGAACAAAGAGATGGAACAGCTAAGGCTCAGTCTTGTGTAAGAGCTCTCTA CTTATAAGGCTATGCTACTACCAAGAGCCCTGGAACAGGCTGATGCTCCAC TTCTCAGGCAGGTGGAATGGAGACACAGTCTCAAGGGGCTGTTTAG	253	MAESRQDLEEEYEPQFLRL LERKEAGTKALQRTQAEIC EMKEALRPLQAEARQLRLQ NRNLEDQIALVRQKRDEEV QQYREQLMEERQRLR NGVQLQQQKNKEMEQLRL SLAEELSTYKAMLLPKSLE QADAPTSQAGGMETQSQG AV*
Shigella ospD1	2	prey1418	53	CTGGGTATCCCATCCGATCCCGAAGAGGAACCAAGCGCAAGCGAAAGG GCCAGCCCCGGAAGATGCTGGGCCACAGACTTTCGCGTGTCTGTGGGAC	254	WVIPDEEEPERKRRKKGPA PKMLGHELRCRVCGDKASG

Shigella ospD1	2	prey67642	54	AAGCCCTCGGCTTCACTACAACGCTGCTCAGCTGCGAAGGCTGCAAGGGC TTCTTCGGCGCAGTGTGGTCCGTGGTGGGCGCAGGCGCTATGCCTGCCG GGTGGCGGAACCTGCCAGATGGACGCTTTCATGCGGCGCAAGTGCCAGC AGTGCCGCTGCGCAAGTGAAGGAGGCGAGGATGAGGAGCAGTGCCTC CTTCTGAAGAACAGATCCGGAAGAAGATTCGGAACACAGCAGCAGCAG GAGTCAAGTCAAGTCCGAGTCACTGTGGGCGGCGCAGGCGCAGCAGCAG CTCAGCTCTGGGCTGGGCTTCCCTGGTGATCTGAGGCGGCGCAGGCGC AGGCTCCGGGAAGGCGAGGCTCCAGTCAACGCGCTCAAGAACTA ATGATCCAGCAGTGGTGGGCGGCGCAGTCAACGCGCTCAAGAACTA TCCGACAGCCCAAGTCAAGGCTGGGCGGCGCAGGCGCAGCAGCAGCAGC CCGAGATCCCGCCAGCAGCTTGGCCACTTCCGAGCTGCGGCGCAGCAGCAGCAGC CTCAGTCCAGGAGTGTGGACTTCCGTAAGCAAGTCCGCTGGTTCCTGCA GCTGGCGGAGGAGCAGATCGCCCTCCGAGGCGCAGCAGCAGCAGCAGCAGC CATGCTGCTAGACAGCAGGCGCTCAACCCAGAGA	FHYNVLSCGCKGFFRRSV VRGGARRYACRGGTCQ MDAFMRKCCQRLKCK EAGMREQCVLSEEQIRKK IRKQQQESQSQSPVG PQSSSSASGPGASPGGS EAGSQSGEGEGVQLTAA QELMIQVLAAQLQCNKRS FSDQPKVTPWPLGADPQS RDARQRFHFTLAIISVQ EIVDFAKQVPGFLQLGRE QIALLKASTIEIMLETARR NHE
Shigella ospD1	2	prey67648	55	ATGAAGGATGAACACCGGTCCACGAACTTTCATGAAGCTGGACTCGGTCT TCATCTGAAGGAACCTTTGGCTGTGCTCATCATCGACCCCTGGAACCTA CCCATGAACCTGACCTGGTCTGCTGGTGGGCGCAGCCTCCCGCAGGAA TTGCTGGTGTGAAGCGCTCAGAAATCAGCCAGGCGCAGAGGCTCCT GGCTGAGGTGCTGCCCCAGTACCTGGACGAGCTGCTTGGCGTGGTCT GGCGGACCCCGAGACAGGCGAGCTGCTAGAGCACAAGTTGGACTACA TCTCTTCAAGGAGCCCTCGTGTGGCAAGATTGTCATGACTGCTGCCAC CAAGCACCTGACGCTGACCCCTGGAGCTGGG	MKDEPRSTNLFMKLDSVFI WKEPFGLVLIAPWNYPLNL TLVLLVGTLPAGNCVVKLP SEISQGTKEVLAELPQYLD QSCFAVLGGPQETGQLE HKLDYIFFTGSPRVGKIVMT AATKHLTPVTLEL
Shigella ospD1	2	prey67648	55	GCTGGGATGCGCTGGCGCTCCTGGGCGAGAGGCTTCTGGCACTCAGAA ATCGACTTAAAGCCTCCAGAGAAGTAGAATCTGTAGACCTTCCACACTGCCA CCTGATTAAAGGAATTGAAGCTGGCTCTGAAGATATTGACATACCTCCCAATG GTCTGGCTTTTTTAGTGTGGTCTAAATCCAGGACTCCACAGCTTTGCA CCAGATAAGCCTGGAGGAATACATGATGATGATCTAAAGAAAGAAACCAA GGCACGGGAATTAAAGATCAGTGTGGGTTGATTGGCCTCATTCAATCC ACATGGCATCAGCACTTTCATAGACAACGATGAC	LGIALALLGERLLALNRK ASREVESVDLPHCHLIKIE AGSEDIDILPNGLAFFSVGL KFPGLHSFAPDKPGGILMM DLKEEKPRARELRISRGFD LASFNPHGISTFIDNDD
Shigella ospC1	3	prey67266	56	NN NN NN NN CTGACCCCTTTACTCTCATAAAAATTATTNGAGGACTCCAAATATAAGCTTT TATTTATGATGATNATAACTTTGGATACTATATAGAATTAAGAACTGAGAAANT TAAAGGGCTTAATTAATAAATAAATCTGTACATGTTAAAN	XXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXX XXXXXXXXVNLNCSPPFTLIK IXGLQI**LLFMYVITLDILEL KLRXLKGLIKK*LCTC*
Shigella ospC1	3	prey67267	57	TACTATTTACTGGATGCTCAGTAGGCGATGTTAGAGATACGTTGTGTGCAA TAGACATATAAATGATTTGTTTACATTACTCCATATAAATGATTTGTTGTTAA TGCTTTGGAAATATTTATGTCTTATGTTGCTGATCTGTTGCCATCNGATT ACTACGATAAANAAGATCTGNNGCTANNGANGGNGCTTNTTTGAAGCTGNTNC	YYLLDVSUVGIV*RYVVCNRH INDLFTLLHINDLFV*CLGNY FMSYGC*FCCHXITTIKIXX XXXXXFELXLXXXXGXXCX

Shigella ospC1	3	prey67268	60	TACCACGAGTTCGGGATGTTGAGAACACCTGATGAGAAATTTACAA CAGAAAAATCGAACCAAGAGAACTGGACCCCATCTGACTGAGGTACCCCT GATGAACGCCCGCAGTGAGCTATACCTACGCTTCTCAAGAAGAGGATTAGC TCTGATTTGAGTGGGAGACTCCATGGCTCAGAGGAAGTAAAGCAAGAG CACCAGAAGTGTCTGGACAAACTCCTCAATAACTGCCTTTGAGCTGTACCA TGACGAGCTAATTGGCTTATATGTTACCATGGAGGAGTACTTTCATGAGGA GACTGTCAATAAGGCTGTGGCTCTGGACACCTATGAGAAGGCCAGCTGAC ATCCAGCATGGTGATGATGCTCTTACATTTGTTAAGAAAGTGCATTGGCGG GCTCTGCCAGCTCCAGCATGACTGTCTGTGCTGCTGATCAACCTCGCCA CCACAGAGCTGGAGTCTGACTTCAGGGATGTTCTGTGTAATAAGCTGCGGAT GGGCTTCTGCCACCACTTCCAGGACATCCAGCGCGGGTGACAAAGTGC CGTGAACATCATGCACAGAGCCTCCAGCAAGGCAATTTGACACAAAGGC ATCGAGAGTACTGACGAGCGGAAGATGCTCTTCTGCTGACTCTGAACAAC GTGGAAGTCTGCAGTGAAACATCTCCACTCTGAAGAAGACACTGGAGAGTG ACTGCACCAAGCTCTTCAAGCCAGGCAATGGAGGGGAGCAGGCCAGGCC AAGTTGACGGCTGCTTCTGACTTGGCCGCTGTCACCAAAATCCGAG ACCTTTGACGGAAGGCTGACGGAGCTCAACGACACAGCCATCAAGCCAC AGGTGACGCTTGGATCAACAGCTTTTCTCGTCTCCACACATCGAGGA GGAAGAATTCATGACTATGAGGCCAAGCCCTGGGTACACAGTTTCATC CTTAACCTGGAGCAGCAATGGCAGAGTTCAAGGCCAGCCTGTCCCGGTC ATCTACGACAGCTAACCGGCTCATGACTAGCTTGTGCGCTCGAGTTGG AGAAAGTGTGCTGAATCCACCTTAAACCGGCTGGTGTGCTGAGTTGA CAAGGAGCTGAGTGGCTCATGCTACCTTACCACGGTGACCACTGGAC CATCCGAGACAAGTTGCCCGGCTCTCCAGATGGCCACCATCTCAATCTG GAGCGGTGACCGAGATCTCGATTACTGGGACCCCAATTCGGGCCATTG ACGTGGCGCCTCACCCCTGCTGAAGTGGCCAGGTGCTGGCCCTGCGGAT AGACTCCGCGAGTGAAGATATCAAGAGGCTGCGCCTGTAG	YLRFLKRISSDFEVGDSM ASEEVKQEHQKCLDKLNN CLLSCTMQELIGLYVTMEE YFMRETVNKAVALDYKKG QLTSSMVDDVFYVKKCIGR ALSSSIDCLCAMLNLTTE LESDFRDVLCNKLRMGPPA TTFQDIQRGVTSVNMHHS SLQQKFDTKGIESDEAK MSFLVTNNVEVCSENI STL KKTLESDCTKLFSGGIGF QAQAKFDGCLSDLAAVSN FRDLLQEGLTENSTAIKPQ VQPWINSFFSVSHNIEEEF NDYEANDPWVQQFILNLEQ QMAEFKASLSPVIYDSL TGL MTSLVAVELEKVLKSTFN RLGGLQFDKELRSIAYLT VTTWTIRDKFARLSQMATIL NLERVTEILDYWGPNNGPL TWRLTPAEVRQVLA LRIDF RSEDIKRLRL*
Shigella ospC1	3	prey67270	61	NCNGGTGNGTGNAGANGGAGTNANCTNTGCCACTGCATGNTGTTTGCTC AGGCANGATNNATGATGCTTGACTTTTATGAAGTTCANNATTCAAATGGATN TGATGCNTAACCTTCCCCATGTANTNGTTGATCATGTTTCATGNGGCTGGNN TNNTNNTNNTTCTATNGNTCATTAGATNNNNNNNACACTCTTGNACTCTCNCT NTANTTACCCTCATGCCATTGANNAACTGTGTCNTTCTCATTNATGATCCCN TA NNNCTGNCCANNGATCTCTC	PCLGWLIYQGCLSLCL*LG Y FTTL*R*KFVYSALIM*IPV HKTANYIIECN*LWPCRHS VLPVCTHL*MCFSISYLTIN V LLIYLTNHL S XGXXRXSXXXPLHXVLLRX DX*CLTFMKFXXSNGXDA* PSPCXXCTCSXGLXLLXL XXIRXXXTLXSLXLP SCH* XICXSHX*XXXXXPXIS

Shigella ospC1	3	prey67271	62	<p>GCAGGAGCTGCAGAAAGGAGCAGACACAGGTCGGGGAAGATGGGTTTT TACTGAAGATCAAGCTGGGCACTATGCCACACAGCTCCAGAACACGTATGA CCGCTGCCCATGGAGCTGGTCGCTGCATCCGCCATATATTGACAATGAA CAGAGTTGGTCGAGAGCCAAACAATGGTAGCTCTCCAGCTGGAAGCCTT GCTGATGCCATGTCCAGAAACACCTCCAGATCAACCAGACGTTTGAGGAG CTGGACTGGTCACGAGGACACAGAGAATGAGTTAAAAAGCTGCAGCAG ACTCAGGAGTACTTCATCATCCAGTACCAGAGAGCCTGAGGATCCAAGCTC AGTTTGGCCCGCTGGCCAGCTGAGCCCCCAGGAGCTGAGCCGGGAG ACGGCCCTCCAGCAGAGCAGGTGTCTTGAGGCTGTTGCAGCGTGA GGCAGACACTGCAGCAGTACCGCTGGAGCTGCCGAGAGCAACCCAGA AGACCCTGCAGCTGCTCGGAAGCAGCAGACCATCATCCTGGATGACGAGC TGATCCAGTGAAGCGGCGGAGCAGCTGGCCGGGACGCGGGCCCCC CGAGGAGCCTGGAGCTGCTACAGTCTGTGTGAGAAAGTTGGCGGAGAT CATCTGGCAGAACCGGACAGATCCGAGGGCTGAGCACCTCTGCCAGCA GCTGCCATCCCCGGCCAGTGGAGAGATGCTGGCCGAGGTCAACGCCA CCATCACGACATTATCTCAGCCCTGGTACCAGCAGCTTCATATTGAGAA GCAGCCTCTCAGTCTCTGAAGACCCAGACCAAGTTTGCAGCCACTGTGCG CCTGTGTTGGCGGGAAGCTGAACCTGCATGACATGAACCCCCCAGGTGA AGCCACCATCATCAGTGCAGCAGCAGGCAAGTCTCTGCTCAAGACGAGA ACACCCGCAATGATTACAGTGGCGAGATCTGAACAACCTGCTGCGTCATGGA GTACCACCAAGCCACAGGACCCCTTAGTGCACCTCAGGAATATGTCCCTG AAACGAATTAAAGAGTCAGACCTGCTGGGCGAGAGTCGGTGACAGAAAGAA AATTTACAATCCTGTTTGAATCCAGTTCAGTGTGGTGAATGAGCTGGT TTTTCAAGTCAAGACCTGTCCCTGCCAGTGGTGTGATGCTTTCATGGCAGC CAGGACAAACATGCGACGGCCACTGTTCTCTGGGACAATGCTTTTGCAGAG CCTGGCAGGTTGCCATTTGCCGTGCTGACAAAGTGTGTCGGCCACAGCTG TGTAGGCGCTCAACATGAATTAAGGCCGGAAGTGCAGAGCAACCGGGC CTGACCAAGGAGAACCTGCTGTTCTCGGCGCAGAACTGTTCAACAACAGCA GCAGCCACCTGGAGGACTACAGTGGCTGTCTGTGCTGCTGCTCCAGTTCA ACAGGGAGAAATTTACAGGACGGAATACACTTTCTGGCAATGTTTGACGG TGTGATGGAAGTGTAAAAAACAATCTCAAGCCTCATTGGAATGATGGGGCC ATTTGGGGTTTGAACAAGCAACAGGCCCATGACCTACTGATTAAACAAGC CAGATGGGACCTTCTCCTGAGATTCAAGTCACTCAGAAATTTGGCGCATCAC CATTGCTTGGAAAGTTGATTCTCAGGAAGAATGTTTGGAACTGATGCTT TTACCACAGAGACTTCTCCATCAGGTCCCTAGCCGACCGCTTGGGAGACTT GAATTACCTTATCTACGTGTTCTGATCGGCCAAAGATGAAGTATACCTCA AATACTACACACCAAGTCCCTGCGAGTCTGCTACTGCTAAAGCTGTTGATGG ATACGTGAAGCCACAGATCAAGCAAGTGGTCCCTGAGTTTGTGAACGCACT GCAGATGCCGGGGCGGCGCAGCGCCACGTACATGACACGCGCCCTCCCC</p>	263	<p>QELQKAEHQVGEDGFLK IKLGHYATQLQNTYDRCPM ELVRCIRHILYNEQRLVREA NNGSSPAGSLADAMSQKH LQINQTFEELRLVTQDTENE LKKLQQTQEYFIQYQESLR IQAFGLAQLSPQERLSR ETALQQKQVSLAWLQRE AQTLQQYRVLEPEKHQKTL QLLRKQQTILDELQWKRL RQQLAGNGGPEGSLDV QSWCEKLAELIWNQNRQIR RAEHLCCQLPIPGPVEML AEVNATITDIISALVTSTFIE KQPPQVLKTQTKFAATVRL LVGGKLVNHNPPQVKATII SEQQAKSLKNENTRNDYS GEILNCCVMEYHQATGTL SAHFRNMSLKRIKRSRRG AESVTEEFKTLFESQFSVG GNELVFQVKTLSLPVVIVH GSQDNNATATVLWDNAFA EPGRVPFAVPDKVLWPQL CEALNMKFAEVQSNRGLT KENLVFLAQKLFNNSHL EDYSGLSVSWSQFNREN PGRNYTFWQWFDGVMVEL KKHLKPHWNDGAILGFVNK QQAHDLLINKPDGTFLLRR DSEIGGITIAWKFDQSQERM WNLMPFTTRDFSIRSLADR LGDLNLYIVFPDRPKDEV SKYYTPVPCESATAKAVDG YVKPQIKQVVPFVNASAD AGGSATYMDQAPSPAVC POAHYNNMPQNPDVSLDT DGDFLEDITMDVARRVEE LLGRPMDSQWIPHAQS*</p>
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Shigella ospC1	3	prey700	63	AGCTGTGTGTCCTGCTTCTGCTCAAGGTGTGAACATGAATAGACTACCAGGTT GTCCCTGACACCGATGGGACTTCGATCTGGAGGACACAAATGGACGTAGCG CGCGTGTGGAGAGCTCTGGCGCGCAATGGACAGTCAGTGGATCCC GCACGCACAATCGTGA	264	MGIGLSAQGVNMNRLPGW DKHSYGYHGDGHSFCSS GTGQPYGPTFTTGDVIGCC VNLINNTCFYTKNGHSLGIA FTDLPNLYPTVGLQTPGE VVDANFGQHPFVFDIEDYM REWRTKIAQIDRFPIGDR EGEWQTMQKMWSSYLVA HGYCATAEAFARSTDQTVL EELASIKNRQRIQKLVLAGR MGEAIETTQQLYPSLLERN PNLLFTLVKVRQFIEMVNGT DSEVRCLGGRSPKSDSY PVSPPRFSSPSMSPSHGM NIHNLASGKGSTAHFSGFE SCNSGVISNKAHQSYCHSN KHQSSNLNVPELNSINMSR SQQVNNFTSNDVDMETDH YSNGVGETSSNGFLNGSS KDHHEMEDCDTEMEVDSS QLRRQLCGGSAQAIERMIH FQRELQAMSEQLRRDCGK NTANKMKLDAFSLLAYSD PWNSPVGNQLDPIQREPV CSALNSAILETHNLPKQPI ALAMGQATQCLGLMARS GSCAFATVEDYLH*
Shigella ospC1	3	prey3486	64	GATCGAGATCCATGGGAAGGCGGCCTGTTTTAGAAGGCCAGATCCACCC CGAGTTGGAAGGAGTCGAGATTGTCTATCAGTGAAGAGGGGCAAGTTCACC GCTGATCACAGTCTTTACTGATGACAAAGTGCCCTACAGTGTGGCCCCCTG CACAGTGACCTGGAGTACCGGTGACCTCACAGAAGGAGGGCTATGTTCTG ACTGCGGTGGAAGGAACCATCGGAGACTCAAGGCCTATGCCCTGGCAGGC GTAAGCTTTGAGATAAAGCTGAGGATGACCAGCCCCCTCCCGGAGTCCCTC	265	IEIHGKAGLFLEGQIHEPE GVEIVSEKGAASSPLITVFTD DKGAYSVGPLHSDLEYTVT SQKEGYVLTAVEGTIGDFK AYALAGVSFEIKAEDDQPL PGVLLSLSGGLFRSNLLTQ

Shigella ospC1	3	prey14801	65	<p>TTATCCCTGAGCGGTGGCCTGTTTCGTTCCAAACCTCTTGACCCAGGACAACG GCATTCTGACATTCTCAAACCTGAGCCCTGGCCAGTATTACTTCAAACCCAT GATGAAGGAGTTCGGTTGAGCCATCTCACAGATGATCGAGGTGCAGGA AGCCAGAACCTGAAGATCACCATACGGGTACCGAACCCTTACAGTTG CTATGGCACAGTGTCTTCTTAACGGAGAGCCGGAACAAGGGTTGCCAT GGAAGCGTGGCCAGAACGACTGCAGCATTTACGGAGAAGACACCGTGAC AGACGAAGAGGGCAAGTTGAGATTACGTGGATTGCTCCGGGATGTGTGA CCACGTCAGCTCAAGGCAGAGGCAACGACACATTTGAGCGGGCGCTCCC CCACCATAGGTGATTGAGGTGGGAATAATGACATCGATGATGTAACATC ATAGTTTTCCGGCAGATTAAATCAATTTGATTAAAGTGAAATGTGATCACTTC CTCTGAATACCTTCTACATTATGGTCAAGCTTTACAAAAGCGAAAACCTCG ACAATCCAATCCAGACAGTTTCCCTTGGCCAGTCCCTGTTCTTCCATTTCCCC CCACTGCTCAGAGACGGGAGAACTATGTTGTCTTCTGGACTCCACACTCC CCAGATCCAGTATGACTACATCTTGCCCTAAGTTTCTTCCACCGAGTGGG CTACCATAAACACACACCCTTGATTTTATCCCAAGGAAAGCTGCCTGAA CAGGACATCGACAAAGGATCTACATTGCCCTGCCATTGACGCTGCTGGTTC TGCTGGCCGTTACAACCATGACAAAGCTATCTTCTGCTGCTGAGTTGAC AAGCCGGCTACAGGGAGTCCGGCGCTCGGCCAGGCGCTCTGACAATA GCGGCCAGAAAGATGCAAAAGAGACAAAGCCAAAGAAACAGAAAGCGGGA CTTGA</p>	<p>DNGILTFSNLSPGQYFKP MMKEFRPEPSSQMIEVQE GQNLKITITGYRTAYSCYGT VSSLNGEPEQGVAMEAVG QNDCSIYGEDTVDDEEGKF RLRGLLPGCVYHVQLKAEG NDHIERALPHHRVIEVGN DIDDVNIIVFRQINQFDLSG NVITSSEYLPWLWVKLYKSE NLDNPIQTIVSLGQSLFFHP PLLRDGENYVWLLDSTLPP SQDYILPQVSFTAVGYH HTTLIFNPTRLPEQDIAQG SYIALPLTLLVLLAGYNHDK LIPLLLQLTSRLQGVRLGQ AASDNSGPEDAKRQAKKQ KTRRT*</p>
			266	<p>LGLHSPIALDVLSEAFEEESL VARDWSRALQLTEVYGRD VDDLSSIKDAVLSCAVAYD KEGWQYLPVKDASLRSRL ALQFVDRWPLESCLILAY CISDTAVQEGKLKCELQRKL AELQVYQKILGLQSPVWC DWQTLRSCCVPSTVMN MILEAQEYELCEEWGCLYP IPREHLISLHQKHLHLEP RDHDKALQLRRIPDPTMC LEVTEQSLDQHTSLATSHF LANYLTFHFYQLTAVRHR EIQALYVGSKILLTPEQHR ASYSHLSSNPLFMLEQLLM NMKVDWATVAVQTLQQL VGQEGFTMDEVDSLLSRY AEKALDFPYQREKRSDSV IHLQEVHQAADPETLPRSP</p>	

CTGGACCTTCCATACCCCTCAGAGGGAGAAACGATCAGATTCTGTGATCACC TCCAAAGAAATTGTCACCAAGGCTGCAGATCCCGAGACCCCTCCCTAGATCACC ATCAGCAGAGTTCTCTCTGCTGCTCCTCTGCTGATCTCCAGTATACATTCCC CTAGTCTAAGGAAAGGAGTTCCACCAACCCAGCCCTCACAGGAATTTGT GCCCCAGCGACACCCCTGCCAGGCACCCAGTGGTACCGGATGAGACTG AGAGTATCTGCATGGTCTGCTGCAGGGAGCACCTTACCATTGTTAACAGGG TCATCATTGTCGCCGCTGTGGCCGCTAGTGTGCAGCTCCTGCTCCACTAA GAAATGGTGGTTGAAGGCTGCAGAGAGAACCCCTGCTGCTGTGTGATCA GTGCTATAGTTACTGCAACAAAGATGTACCAGAGGAGCCCTCAGAAAAACCA GAAGCTTAGACAGCTCCAAGAGTGAAGCCCTCCATACTCGTTTGTGGTGA GAGTCCCAAGCAGATGAGGTGAATTTACTATGACGAGCCCCCAGCGCCT AAATGAGCTGGTGGGAGTGAAATTTACTATGACGAGCCCCCAGCGCCT CCTTGACATTGCCATCTGAACTGTGCACCGGAGACGATTGCTGTGTCA CCAGCTGATTGAGCACTGCTCAGGCTCTCCAGGCTCACCACCCAGA GGTGGATGCCGGGCTGCTCAGGACATCATGAAGGCTGCTGTTCAGGCG CAAGATGATGTTGCTCAAGCGCGCAGAGCCAGACTTGGCTCTTTGTGAC AGCTACATCAGCAAGTAGATGTGCTGAATATTTAGTTGCTGCTGCCATC GCCACGTGCCATTTTGAAGCCGAGTACTACCACTGGCGTTGAGGCTC AAGAACCAAGCTTTTGAAGCCGAGTACTACCACTGGCGTTGAGGCTC CACAAAGACTGGCTTGATACCAAGCGGCGTGGCATGCTGGGCGATGGC CTGCCCTCAAGCCGGAACCTCACTGCTGCAGGGAGAGTTCAAGTGGT TCTGAAGCCCCATTTGACCTCAATCAGCTGATCATGGCTCAAGGCTGGT CAGGATGTGGTTGAGTACCTAGAGTCCACAGTGAAGCCCTTGTATCCTTG AAGATGACGATTACTTGGCAGTATTCTGAGGAACTGGAAGTACCTTCGGAC GCAGAGCCTTCTCTGGCAGTATTCTGAGGAACTATAGCACCACCTGGCCA TACTACCAGGAATGCCCTCTTCTACCTGCACAACTATAGCACCACCTGGCCA TCATCAGCTTCTACGTGAGGCACAGCTGCCTGCGGGAAGCTCTCTGACCT TCTCAACAAGGAGAGTCTCCAGAAATTTTATAGAAGGCATTTTCAACCAA GCTATAAAGTGGAAAGCTACACACTTTGGAGAACTTGTAGATCCATTGA TCCAACTTGGAGAGCTGGGAAAGTACTTGAATGCTGCTGCCAATTTA CAGAAGAAGAACTACTACCACTTCTGTATGAGCTGCAGAGTTTATGAAG ACCAAGTTCCGGCCGCTGAGAGAGCTGATTCGGTCTTCAAGTACAAAGCAA GTATATACAGAACTGGGAGAGAGCTCTCATGGCTACTTAAGGCCAAGGAC CACCTGAAGATCTACCTCCAAGAAACATCCGAGCTCTGGAAGGAAGAAA CCACATTCTCAGAAAGAAAGATGACTGCAGCTGATGTCAAGGCACATGAA CACACTTCAGCTGCAGATGGAAGTGACCAAGTTCTTGCATCGGTGCGAAAGT GCTGGGACCTCTCAAATCACCACCTTGCCTCTGCCAACCTGTTTGGAAATA ACCACATGAAATGGATGTTGCCTGCAAGGTGATGCTGGGAGGAAAAATGT AGAAAGTGGTTTGGAAATGCTTCCGTTCTCGAGGACTTCCAGCTGGAT					SAEFSAPAPPGISSHSPSL RERSFPPTQPSQEFVPPAT PPARHQWVPDETESICMV CCREHFTMFNRHHCRRC GRLVCSSCSTKMMVVEGC RENPARVCDQCSYCNKD VPEEPSEKPEALDSSKSES PPYSFVVRVPKADDEVWIL DLKEENELVRSEFYEQEA PSASLCIAILNLHRDSIACG HQLIEHCCRLSKGLTNPE DAGLLTDIMKQLLFSKMM FVKAGQSDQLALCDSYISK VDVLNILVAAAYRHVPSLD QILQPAAVTRLNQLLEAEY YQLGVEVSTKGLDTTGA WHAWGMACLKAGNLTAAR EKFSRCLKPPFDLNLNHG SRLVQDVVEYLESTVRPFV SLQDDDYFATLRELEATLR TQSLSLAVIPEGKIMNTYY QECFLYHNYSTNLAISFY VRHSCREALHLLNKESP PEVFIEGIFQPSYKSGKLHT LENLLESIDPTLESWGKYL AACQHLQKKNYYHILYELQ QFMKDQVRAAMTCIRFFSH KAKSYTELGEKLSWLLKAK DHLKIYLOETSRSSGRKKT TFFRKMTAADVSRHMNT QLQMEVTRFLHRCESAGT SQITTLPLPTLFGNNHMKM DVACKVMILGGKKNVEDGFGI AFRVLQDFQLDAAMTYCRA ARQLVEKEYSEIQQLKLC VSESGMAAKSDGDTILLNC LEAFKRIPPQOELEGLQAIHN DDNKVRAYLICCKLRSAYLI AVKQEHSRATALVQQVQQ
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Shigella ospC1	3	prey67279	66	GCTGCCATGACCTACTGCAGAGCTGCCGCCAGTTGGTGAGAAAGAGAAG TACAGTGAGATCCAGCAACTGCTCAAATGTGTCACTGAGTCAGGCATGGCAG CCAAAAGTGACGGGACACCATCTCTCAACTGCCTGGAAGCGTTCAAGA GAATCCGCCCCAGAGCTGAGGGCTGATCCAGGCAATACACAATGATG ACAACAAGGTTGGGCTACCTGATATGTTGCAAACTGCGTTGCGCTACTT GATTGCTGTGAAGCAAGAACACTCACGGGCCACAGCCCTTGTCCAGAGGT GCAGAGGCCGCCAAGAGCAGCGGGGATGCAGTAGTCAAGACATCTGTG CCAGTGGCTTCTGACAAGCCACCCCGGGGTGCCCATGGCCAGGCTCC AGGAAGTGA	267	LPLCLAGFL*IICVIAYSFLNI FTIISFNHTSPEKCFHF N*DAEAQXXXXXXX XXXXXXXXXXXXXXXXXX GEAQY*MSGPIT*SVS	AAKSSGDAVQDICAQWLL TSHPRGAHGPGSRK*
Shigella ospC1	3	prey67280	67	CTCCCTCTCGCTAGCTGGCTTCTGTAATAATTATTGTGTCATAGCTTA CAGCTTTTAAACATTTTCACTTTTATTATTTCAATTAATTTACACAGCCCC GAAAAGTGTTTTTCCACTTTACAAATTAAGATGCAAGCTCAGCAATANN NN NN TATTAATGTCTGGCCCAATTACGTAATCAGTAAGC	268	NFHLPREVYVFF*ALFYVFT SLSHTHTRHTSHLFLIK*DY TTHLSLAFLLKSISKRLCVS EAGATSF*LAAWRSIECLS SCV*PSGWIVCLFLVX	
Shigella ospC1	3	prey49194	68	CAACCCGTCGCCCTCTATGCGCCAAATCTCAGCCCGCTCGGCACAGCAG GATCCACGTCCGCGCAGTGGTACTGCTGCTGGAGTGTGGAGACGCATT TGCCCTAGAGAAGAGCTGAGCCAGCACTATGCGCGGCGGAGCGTCCACAT TGAGGTACTGTGCACACTGTCTCCAAAGACGTGCTCTTCTTCAACAAGTGC AGCCTGCTCCGCGCACGCCGTGACCACAAAGCAAGGGGCTCGTCATGCA GTGTTCCAGCTGTGGTGAAGCTATCTCTGCGGACCAATGTTCGTGTCG GCCCTGTGAATCCACGGCACCCAGCAGCCCGCCAGCCCTTCATCCTCTCCC AAACATGGCCTCACTTCGGGCAGTGCCAGTCCCGCTCCTCCAGCCTTGCCA CTCTACCCAGACCTGTGAGGCTATCCGGTACTCAATCAAGTGTCTTGAAT GTCACAAGCAGATGCGGGACTACATGGTCTGCTGCTGCACATTTCCAGAGGA CAACAGAGGACAGAGGGGTGACCTGCCAGGTATGCCAGATGCTGTGTCG CCAAACAGTGCAATTTCTGTGCCACACAGCGGATTCATGCACACAAGTCCCC CTACTGCTGCCCGGAGTGTGGGTCTCTGCGCTCTGCTACTTCCAGAC CCATGTAAAGGAGAAATGCTGTCACATATGCCCGCAAGGTGGGTACAGGTG CATCCACTGTGGTGTGCTCCACCTGACCTTGGCCTTGTGAAAAGCCACATC CAGGAGCGACACTGCCAGGTTTTCCACAAATGTGCAATTCGCCCATGGCCT TCAAGACTGCCAGCAGCACTGCAGACCAAGTGCACCCAGCACCCACCC AGCCCCACAGACCCCTCCAGCTCATTATAGTGTCTCTGTGAAATGGTCTT	269	NPVPLYAPNLSPADSRIH VPASGYCCLECGDAFALEK SLSQHYGRRSVHIEVLCTL CSKTLFFNKCSSLRHARD HKSKGLVMQCSQLLVKPI ADQMFSAPVNSTAPAAPA PSSSPKHGLTSGSASPPPP ALPLYDPVRLIRYSIKCLE CHKQMRDYMVLAHFQRI TEETEGLTCQVCQMLLPNQ CSFCAHQRIHAHKSPYCCP ECGVLCRSAYFQTHVKN CLHYARKVGYRCHCGVWH LTLALLKSHIQERHCQVFK CAFCPMAFKTASSTADHSA TQHTQPHRPSQLYKCS EMVFNKKRHIQQHFYQNV KTQVGVFKPECPPLLFVQK	

Shigella ospC1	3	prey67287	69	CAACAAGAGGACATTCAGCAGCATTTTACCAGAATGTCAGCAAGACG CAGTGGCGCTTCAAGTCCCTGAGTGCCCACTCTTGTTCGTCAGAAG CCGAGTTGATGCAACACGTCAGAGCACCCACGGTGTCCCGAAATGTG GACGAGCTGTCAAACCTCCAGTCTTCAGCGGACACATCTCAAGCGCCCT GGCTCTGAGTCCCACTGAGCCACCAAGCCACTAGTGTGGCTGCTCGGAGC AGTCCCTGCCCTTCTGGCCGTGGGTAGGCTGAAGCCCAACCGCAGGT GGAAGCCAGGCGCGGCTGAGGAACACTGGCTGGACCTGCCAGGAGTGCC AGGAGTGGGTCCAGATCGGGAGAGTACGTGCCGGAGTGAACAGTCCCTCC ACGCCCAACAGCCTGCGCAACACATCCGCAACCAACCAATGACACAGTAA GAAGTCTACACCTGCGGTACTGCACAGAGGACAGCCCAAGCTTCCCTCG GCCCTCCCTCTGGAGAGCCACATCAGCCTTATGATGGCATCAGAAACCT GATTGAGCCAGAGTCCAAAGTGAACCTCCGGGTGACATTCCTCCCTCAG GTGAACCATCTGAAAGACCAAGTCAAGTGGAGTGGGAGCGCTCCAGGCAC AGCAATGGCGCAACTGTCTCTCCACAGACTCGGGGCTCGAGTTCAGAGCCACA GCGGAAATGTAGTTTGGCACAGACTCGGGGCTCGAGTTCAGAGCCACA TACCTCAGCACCAAGTGGACAGCTCCACAGCCCAATGCTCCTCTGTGTT GTCTACACCTCTCCAGCTCCCTCAGCGCCCACTTTCATTGTCACAAAG GTGAGAGCACGAGGAGGAGGAGGAGGAGGAGGCGGCGGAGGAGGAGGAG TGGCAGTGGAGGTGGCAGAGCCAGAGGAGGAGGAGGAGGAGGAGGAGGAG CATGGAGACTAGAGAGATGGACTGGAAGATGTGCCGGTGAACCTTTGTC AGCTGACCCAGAGGCGAGGAGATTGCTGGGCGGCGCCCTGAGGACGATG GTGGCCCAATGATCACAGTCAACCAAGGCTCTCAGGACCAAGGACGAGCC ACACACTGTCCTCAGGTGTA		PELMQHVKSTHGVRNVD ELSNLOSSADTSSSRPGSR VTEPPATSAARSSSLPS GRWGRPEAHRREARPL RNTGWTCEQCEWVPDR ESYVSHMKKSHGRTLKRY PCRQCEQSFHTPNSLRKH RNNHDTVKKFYTCGYCTE DSPFPRPSLLESHSLMH GIRNPDLSQTSKVPKPGH SPQVNLKRPVSGVDAT GTSNGATVSTKRHKSFLQ CAKCSFATDSGLEFQSHIP QHQVDSSTAQCLLCGLCYT SASSLSRHLFVHKVRDQE EEEEEEAAAEAMAVEAEP EEGSGEEVPMETRENGLE ECAGEPLSADPEARLLGP APEDDGGHNDHSQPQASQ DQDSHTLSPQV*
Shigella ospC1	3	prey19931	70	GAACACTCCTCTAGCTTAGTTATGCTGTTCTTTAAGTTTGTCTTTGAGTTGG GAAAGTAGACCTATTGGCTTGGCTTAAGGGCTAAATGTCTCCTCTTCACTTG GTCTTCTAATCCTCAGTCTTCTGGCTATGTGGCATCATGTCTTTAAAGCAG GGAGAGTAAAGTATCAATATTTAAGAAAGGAACATCTTCCACCTTACGTTT CTATTCTTCTTCTTTGAGCCCTTCTAGAAAGAGTAAATGCTCTAGCCTTCAA CCAGAAATGAAAAGTCTATG	270	EHSSSLVMLFF*VCL*VGKV DLFGLA*GLNVSSSLGLLILS PSWLCGIMSLKQGE*SINIL RRNILPTYVFYSSFF*ALSR KSNALAFNQK*KVY
Shigella ospC1	3	prey19931	71	GGTGACCAAGTGACAGACCTTCTAGAAATGCCAGCTGTTCAAGCGCTCT TTGCTGGAGATGGCAACGTTCTGA	271	VHQVTDLSRNAQLFKRSL EMATF*
Shigella ospC1	3	prey67290	71	GGGGGGGTGGGATGGGAGGATAACNNATNTTCTTTTGGTANTNATA CAGTGTGNANTCTNTNTGAANNNTCTATNGACNANAAATATCTTTTTTT NTCTTATCTTCTNTTGTCTTCTGTTGGGAGAGGCTGCTNTNTTTTANNGN CTTTGTNTATTTTCTNTATTAGCAGAAATATCAGCANNNTGNTNCTNCNATAT TTTATGANATANNCTNTAANCNTNTANAATCTGATTAATATTTATNNACTT NTTTACATCATATAGANNATATCTTT	272	GGVGMGR**XXLLVXIQC GXLX*XXLXTXNIFXSYS XVFCGRXLLXFLXLXIFXIS RISAXLXLYFMXXLXXXXX NLINIYXLXHLHXIXIF
Shigella	3	prey67291	72	TTTGAAGGNTCNTANNAACATAGGANAATGTGGCTATAGTTTGGAACTNC	273	FEGXXXT*XNVAIVWNLLHI

ospC1				TACATATTTGTTGAATGGCTTTGACANACTTGCTGATAGTATGAACATTA NNGTCCAAGCTGAGGTGGTCTCAAAATGGAGATGAGGAACCTGTTGGAACT GAAGNACAGGTGACTCTGTGTTATGTTTANCCAAAGCACTGTCNTCATTTTG CCTNTGCCCTANANATTTNTGGAACCTTNACNTTGAGANANATGATNCANGAT CTTGGNNGANGANTNNTAANNNGNNTATATTNN		C*MALTXLLIV*TLXSKLRW SQMEMRNLGTEXQVTLV MFXPRPLSSFLCPXXXXW NFXEXDXDXXSWXXXXXX XXYX
Shigella ospC1	3	prey67294	73	GCACAGCCGTCATACCATACGAGGAGTAAATAATTACTCCTTAGTTTCTT CTANAAATAGATTAACTCTGTGATCCATTTGGGTTAATTTTCTGTGATGTAT ACTATTGTTGAGGTTAATTTTCTAGTTTAAATTTTTCATCCAGTTGTTCC AGCNTCCTGTTGAGAAAAATTGTTNTCCCATTAANATTACTTTGGATACCT NGNGTGANGNNTATATNGGNCATANNGTGNGNACNCGACGCTGCG CAGNGTGGCNTANCGTCGTAAGNNANGTAGNANAGNCCGNGAGA	274	AQAVIPYQAVKIYSLVFFXK* IKSVIHFGILF*CILLFEVNF FLVLKFSSSCSXXC*ENCX SH*XYFGYLX*XXYXXYXX XNXTLRXVAXRRKXXXXXX RE
Shigella ospC1	3	prey67296	74	AGAGTGGGATGGGCTGGGCTCTGTTGCTCGCTCCGACCCCTCATGTG TGCTGCCCCAAACCTCGCGCTCCCTAGTTTGGTATTCTGTGTCGGCCTGG GGTAGTAGCTGGACACCACTCAATCTTGGGCTCCAGTTCCCGACTTTTCG CCTCCTCTGGTCTGCTCTGGGTCAGTAAATAACCCGGGTCCTCAGGGGTG TCGCTTTTCCCTCCAGGTGGGCGCTGCCTGTACATGCCAGGGATCTTTT GCAGGGCTTTTTCATCCANATTGCTTCAGGG	275	RVGMGWASVRPSDPPIV CPKPRRSLVWYSVSLG** LDTRLNLGLQFPTFRLWV CPGVSN*PGSQGCRLLFPP GWGAACCTCQGSFAGLFI CFR
Shigella ospC1	3	prey67299	75	CCTCCTCCTCAACACACGTCACACAGTGTCTGCCAATGCCTACTTTTTT TTTTAAANGAAANTTTNANTTNGNAANTANAANNNGNTAAAANGNCNTNNC NTNTANCCCTTTNNNGTTTTTTTNTTTTTTTTTTTNGTAAANNANNNGTT TTTNAAAAAGGTNNAAAAAATNTNACANTTTTNGGGNTAANCCTTTAATTT AAAACTTNGNCCCTTAAATTAACCCACNCNCAANTANCAAAATTTTNAAGGTTT TNAAAAANNNGTTTGGGA	276	PPPTTHVHTVSAQCILLFF KXXFXXXXXXXKXXXXXX FXXFXFXFFX*XXXFXKRX KXXXTXXGXLLI*NXXPLN XPPQXXKFXRFXKXXLG
Shigella ospC1	3	prey4637	76	AGCAGAAGGATGATAAAGAACCAGCCAGTGAAGAAGACAGTGACAGGAA CAGATGCAGACCTTCGTGCGCTTCCCTGAAAAATGCCAAGCAACTTCTACG TAAATTTGGTGTGCTGAGGAAGAGATTAAAAAGTTGTCCCGCTGGGAAGTG ATTGATGTGGTGCACAAATGTCAACAGAACAGGCTCGTTCTGGAGAGGGG CCCATGAGTAAATTTGCCGTGGATCAAGTTTTCTGTGGCTGAGCATCAAG AGCGTTACAAAGAGGAATGTACGCGCATCTTTGACCTACAGAACAAAGTTCT GTCATCAACTGAAGTCTTATCAACTGACACAGACAGCAGCTCAGCTGAAGAT AGTGACTTTGAAGAAATGGGAAAGAACATTGAGAACATGTTGCAGAACAAAGA AAACCAGCTCTCAGCTTTACGTGAACGGGAGGAACAGGAGCGGAAGGAAC TACAGCGAATGCTACTGGCAGCAGGCTCAGCAGCATCCGGAACAATCACA GAGATGATGACACAGCTTCGCTGACTAGCCTTAACTCTTCTGCCACTGGACG CTGTCTCAAGATTTATCGACGTTTCGAGATGAAGAGGGGAAGAGATGTT CGCTGTGAGACAGTCCGAAACCAAGCTGTCAATTGATGCTATGTGCGCATAC GGACTACAAAAGATGAGGAAATTCATTCGAAAATTTGCCCTTTTGTGAAACAA CATCGGGAAGAGATGCGAAAAGAACCGCGGAGGATTCAAGAGCAACTGAGG CGGCTTAAGAGGAACCAAGGAAAGGAGAAAGCTTAAGGGTCTCCTCCTGAGAAG	277	QKDDKEPQPVKKTVTGTD ADLRRLSLKNAKQLLRKFG VPEEEIKLSRWEVIDVVRT MSTEQARSGEGPMKSFAR GSRFVAEHQERYKEECQ RIFDLQNKVLSSTEVLSTD DSSAEDSDFEEMGKNIE MLQNKTTSSQLSREREQ ERKELQRMLLAAGSAASG NNHRDDDTASVTLNSSAT GRCLKYRTFRDEEGKEYV RCETVRKPAVIDAYVRI KDEEFIRKFAFDEQHREE MRKERRRIEQLRRLKRN QEKEKLGKPPKPKMKME RPDLKLKCGACGAIGHMRT

Shigella ospC1	3	prey67316	77	<p>AAGCCCAAGAAATGAAGGAGCGTCTGACCTAAACTGAAATGTGGGCGAT GTGTGCCATTGGACACATGAGGACTAACAAATCTGCCCTCTATTATCA AACAAATGCGCCACCTTCCAAACCTGTTGCCATGACAGAAGAACAGGAGGA GGAGTTGAAAAGACAGTCATTATAATGATAATGAAGAACTTATCAAGGTTG AAGGGACCAAAATGTCTTGGGAAACAGCTAATTGAGAGTGGGATGAGG TTCGCAGAAAATCTCTGGTTCTCAAGTTTCTTAACAGCAGCTTCTCCAAAG AAGAAACGGGAGTTGGAACCACTGTTCACTGTGACTATTTGAATAGACCTC ATAAGTCCATCCACCGCGCCGACAGACCCTATGTTGACGCTGTCGTCCA TCTTGAGTCTATCATCAATGACATGAGAGATCTTCCAAATACATACCCCTTC CACACTCCAGTCAATGCAAGGTTGTAAGGACTACTACAAAATCATCACTC GGCCAATGGACCTACAAACACTCCGCGAAACGTCGCTAAACGCCCTCTACC CATCTGGGAAGAGTTGAGAGAGCATCTGGAGCTAATTGTGAAAATAGTGC AACCTACATGGGCAAAACACTCATTGACTCAGATCTCTCAATCCATGCTG GATCTGTGATGAAAACCTCAAGAGAAAGAACAGCAAAATAGCTCGCTTAG AGAAAGCTATCAACCCCTTGTCTGGATGATGATGACCAAGTGGCGTTTCTTT CATTCTGACAACTGTCACCCAGAAATGATGTCAGTCCAGATTCAGATCTTGG CCATTTCACTCCAGTTAATAAGAAATTTGTTCCAGATTATACAAAGTGAAT GTCAATCCATGGATTTAGAGACCATACGTAAGAACATCTCCAAACCAAGT ATCAGAGTGGGAGAGCTTCTGGATGATGATAAACCCTATTCTGGCCAAACG TGTAAGTATATGGACCTGAGAGTCAGTATGATGATGATGATGATGATGATG GTGAACGCTGTACCAAGACATTGACTGATGATGATGATGATGATGATGATG TGAGAAGGATATTTGACTGCTAAGAAAGCAGCTTTGGAGGAAGCAGAAATTA GAAAGCTGGACCAATGACCCCGGCGCCCTACACGCTCAGCCCTCCTGAT TTGATGATACCAACACATCCCTCAGTATGCTCGAGATGCTCTGTATTCTTA AGATGAGAGCAATATGCTGCTGTTGGATATTTCCAGTCCACTCCAGAAAG CAGGTAAACACAGGAAGGTGAAGATGGAGATGATGATGATGATGATGATGATG GAAGGAAGTGTAAACAGCCTCAAGCCAGTGTCTGTATGAGGATTTGCTTA TGCTGAAGGAGAAAGATGATGAGGAAGATGCTGGAGTGAAGTGAAGTGAAG ACAATCCTTTCTCTGCTATCCAGCTGAGTGAAGTGAAGTGAAGTGAAGTGAAG GGATCTGGTGAATAAGACCCCAACCAACCCCGCATGCTTTCAGGAGAACAC AAGGATGACATGGAATGAAGAAAGCATGATGCTCTATGAGGAGACGG TGGGAGGCTTCCCATGGTTGGAGGATGCAACATCAGTATGAGGAGCTAT GAGGAGCCTGATCCCAAGTCGAACACCCCAAGACACAAGCTTCAGCAGCATC GGTGGGTATGAGGTATCAGAGGAGGAAGAGATGAGGAGGAGGAGGAGCA GCGCTCTGGCCGAGCGTACTAAGCCAGTCCACCTGTGAGGAGCAGG AGGACAGTGAGGATTTCCACTCCATTGCTGGGACAGTGACTTGGACTCTGA TGAATGA</p>	<p>NKFCPLYQTNAPSPNVA MTEEQEELEKTVIHNDNE ELIKVEGTVKLGKQLIESAD EVRKSLVLFKPKQQLPPK KKRRVGTTHVCDYLNRP KSHRRRTDPMVTLSSILES INDMRDLPNTYFHTPVNA KVKDYKIITRPMDLQTLR ENVRKRLYPSREEFREHLE LIVKNSATYNGPKHSLTQIS QSMDLDCDEKLEKEDKLA RLEKAINPLDDDDQVAFS ILDNVTQKMMAVPDSWPF HHPVKKFVDPDYKVVNP MDLETIRKNISKHKYQSRES FLDDVNLILANSVKYNGPES QYTKTAQEIENVVCYQTLTE YDEHLTQLEKDICTAKEAAL EEAELESIDPMTPGYTPQ PPDLYDNTSLSMSRDASV FQDESNNMSVLDIPSATPEK QVTQEGEDGDLADEEE GTVQQPQASVLYEDLLMSE GEDDEEDAGSDEEGDNPFF SAIQLSESGSDSDVGSGGI RPKQPRMLQENTRMDMEN EESMMSYEGDGGEASHGL EDSNISYGSYEEDPKSNT QDTSFSSIGGYEVSEEEED EEEEEQRSGPSVLSQVHL EDEEDEDHFSIAGDSLDL SDE*</p>
			278	<p>CCACTCTACTCCACAAGGCTCATTCTAACTCCCCCTTGCCTATTGTAACT TTTTCTCTGAGAGTGAGACCCCAACTTTCATTATCTACAACATATCTATCTAT</p>	<p>PLYSTRILTSPLAYL*LFSL RVRPQLSLSTTLYLSIYTCS</p>

Shigella ospC1	3	prey67318	78	TTATTACTGTAGTTTCAAAATTAAGTGAAGAACTTACTACCTAGAATA CTGTGTTAATATACAAATTTCTTTAGTTTACAGTATCCAGTCAAAAGGCTGTC TTCCAAAATTCCTAGGTCAGCTCCTTCCATGCAACTCTTTCAGTGAGGCT GNATCATGCGTTTGTAATATTGTTAGAT		FKITEKQIYLEYCVNIQFSL VLQYPVKRLSSKIA*VSSFS MQLFQ*GXIMRL*YC*
Shigella ospC1	3	prey67318	78	CCACCGCACCTGACCTTAGTTTTTCTGACGTGGTCTCTTCTTTATCTCT AAGACTTATGATTGCTAAGACAACAAAGATACCATCGTTACTGGCCAACCTT GGAATTTGGTCTTGGGAAATGGAGCCTGTAGTTTGTAAACCCATAAGAAGAG ACTGAAGGGGCTAAGTGCAGATGAGAAATCCCTGGTGATAGAACAGACAAG AACTGGAGATCAATGCCAATAGTTTGATGAACGCTCTTGGGTTCTCTGTGT GATCAACCTGTGGGATTTCTGTATT	279	PPHLTLVFF*RGPLLLSLRL MIAKTTKDTIVTGQPNLVL GNGL*FVTHKKRLGPKC R*ESLVIEQTRTDQCC*FV MNVLGLCDQPVGISV
Shigella ospC1	3	prey7144	79	GGAAGCCAGAAAGCCCACTCTGGCTTTCAGTGGAGGCATTAAAGTAC AGCATGAAGACCTCATCTGCAGAAACACCTACTATCCCGCTGGGTAGTGCAG TTGAGGCCATCAAAGCCCACTGTTCTGATAATGAATCACCAAGCTTTAAACC GCAGCTATCCCTCCAGAGTCCCTGACCCGTGGGTGTACAGTGAAGAGACC CTTAGAGCCCGTTTCTATGCTGTTCAAAAACCTGCCCGAAGGTAGCAATGA TTGATGAACCCAGAAATAGCTTGACCACTGACCTCTCTCTACCTACAGTCC CTGCTCTATTTCCACCTCAGCACTGAAGCCGCCCGCAGAGCTCTGCCCT GAGGATATAACACATTTAAATTACTGTCTATGCTCTCTCTATGATTGAGCAT GGTATCTGGAGTAGCAGCAAGTTTGTCAATCAGCTGAAGGGGAATCC AGACGAGTGGCAGGAGTGGCTGAAGGAAGCCCGAATGACCCTAGAAACG AAACAGATAGTGGAATCTCTGACAGCATATGCCAGCGCCGTAGGAATAGGAA CCACTCAGGTGCAGCCAGAGTGA	280	EARKAHQLWLSVEALKYS MKTSSAETPTPLGSAVEA KANCSDNEFTQALTAAPP ESLTRGVYSEETLRARFYA VQKLARRVAMIDETRNSLY QYFLSYLSLLFFPPQQLK PPPELCPEDINTFKLLSYAS YCIEHGDLELAAKFVNQLK GESRRVAQDWLKEARMTL ETKQIVEILTAYASAVGIGTT QVQPE*
Shigella ospC1	3	prey67328	80	ATGAATCCCAATGGTGTAGACCAGTGGCGATGGATCTAGGAGTTTACCAAC TGAGACATTTTCAATTTCTTTCTGTCATCCTTGTCTGGGACTGAAAACGCT TCTGTGAGACTTGATAATAGCTCTCTGGTCAAGTGTGGTAGCTATTGACA ACAAAATCGAGCAAGCTATGGATCTAGTAAAAGCCATTGATGATGCGGT CAGAGAAGAGTGGAGGTCTCAAAGAGCAAAATCAAAGAACTAATAGAGAA AATCCAGCTGGAGCAGGAGAACAACTCTGCTGAAGACACTGGCCAGTCTCT GAGCAGCTTGCCAGTTTCAGGCCAGCTGCAGACTGGCTCCCCCCTGCC ACCACCCAGCCACAGGGCACCAACACAGCCCCCCCCCGCCAGCCAGCATCGCA GGGCTCAGGACCAACCGCATAG	281	MKSQWCRPVAMD LGVYQL RHFSISFLSLLGTENASVR LDNSSSGAVVAIDNKIEQA MDLVKSHLMYAVREEVEVL KEQIKELIEKNSQLEENNL LKTLASPEQLAQFQAQLQT GSPATTQPQGTTPPAQ PASQSGSGPTA*
Shigella ospC1	3	prey37430	81	GTGGGAACAAGAGCTATACAACTTTGTATATAATAGTCTAGAGGATATT TTCATACCTTTGCTGGAGATACCTGTCAAGTTGCTCTTAATTTGCCAATGAA GAAGAAGCAAAAATTTGAAAAGCAGATTACAGACCTTTTGGCCCTCGAC AAAGGAAATCTGAGAAAAGCAGAGATCCCCCAATGGTCTAATCTACCCAT GGCTACAGTTGATATAAAAATCCAGAAATCACAACAAATAGATTTTATGGTC CACAAGTCAACACATCTCCCATACCAAGAAAAGAAAGGAAAAGCTAA AAAGAAGAGATTACCAAGGGAGATATAGGAACACCAAGCAATTTCCAGCAC ATTGGACATGTTGGTGGGATCCAAATACAGGCTCTGATCTGAATAATTGGA	282	WEQELYNFVYNsprgyf HTFAGDTCQVALNFANEE AKKFRKAVTDLLGRRQRKS EKRRDPNGPNLPMATVDI KNPEITTRFYGPQVNNISH TKEKKKGAKKKRLTKGDI GTPSNFQHIGHVWDPNP GSDLNNLDPELKNLFDMMCG

				GCCTTGCTGTCAGAGAGGTGGCACCTTCCAGATGGGGGTAGCAGCAGC CATAACAGGCCCTTCTGGCAGTAATGTAGATACTCTCCTCCGCTCCGAGGAC GGCTCCTTCTGGACCAGAACCCCTTCTTGCTCTCTTGCTCCTACTTTTGTG GATGAGCCAAAGCTCAATACTAGCCGTCTACCCGAGTACTGAGAAATCTCT GCTACCATGCCAGACCCGCCACTGGGTATCCGCGAGTCTGCTCCTCATCTT GCAGCGCAGAGTGAGAGTGAGCTATGCATTGAAACACCCAACTCACTACA AGTGAGGAAAAGGGCAAAAGTCAGCAAGAGCTGTGGTCAAGTAGCCAT GAGAACCCTCCCTGGACCTGCTACACAAGATGAGTCAAAGAGCTCCAAC CAGCTTCTGGCTCTCAGTATCCATGGATGCAGCCCTAGGCTGCAGGACTA ATATATTTAGATCCAGCGTTACGGGGGCGTAAACATACCGAAGCATGC AAGCGTGGCTCCACCGTCCACATCCATCCCAAGCTCCTGTTGTCTG CAGACAGTTTTGGATACACTCATTTCAATTGGCCAAGTATTTCCAGCCACT TCACACAGCAGCGCAACAAAGAAACAACTGTGAGAGTATCGGGAAGGG GCAATAAGGCTGTAGCCCATGCTCCTCACAGTCTCCAGCAGTGGCATTTG CACAGACTTCTGGACTTATTGGTAAACTGGACAACATGAATGTCAGCCGG AAAGGCAAGAACTCCGTGAAGTCAGTGCCAGTGAAGCTGGCGGTGAGGG GAAACCTCTCCATACAGCCTCAGGCGCTCCACTGGGGCAGCTCATGAA CATGTTGTCACACCCAGTCAATCCGCGGAGCTCTCTTAACTGAGAACTC CTCAGACTCCTTTCTCTCATCTCAATTGCTCTCCAGAAAACAAAGTGTGAGA AGCACAGGCTAATTCTGGCAGCGGTGCTTCTCCACCACCACTGCCACCTC AACCACATCTACCACCAACCACTGCGGCTCCACCACCCACACCCCTC TACTGACCCACCCCTGTCATCTGCTCCAGCCCTGTTGCTGCCAGGCT ATTTCCACCATGCTGAGTCTTCGACCACTGACTACCCCCACGACTG CTACCACTACTGTTCAATTTCTCCCACTACTAAGGCGAGCAATCTCCAGCG AAGTGAGTGATGGGGCAGCAGTACAGACTTAAAGATGGTCTCTCT GGCTCACTGAAAACCACTACAGCTCTCTGTAGAGTGTGACATCCCACT CTTGTCTGAGGAAGGCTTAGAGATGCAGCCAACTACTACTGAGCTCTC CCGGGGGACTCTGGACCCGGGACACTGTTCTCAAGCTGCTACTGAATGG AGCCCGCCATCTGGGTTATACCCCTTGTAAACAAATAGGTACCCCTGCTGGCC GAGCTGCGGGAATACAACCTCGAGCAGCAGCGGCGAGCCCAATGTGAAACC CTCTCTCTGATGGCTGCTGAGGAGCAGCCACAGACCAACCAAGCTGAAG GGCAAAATGCAGAGCAGGTTTGACATGGCTGAGAAATGGTAAATTGGGCAT CTCAGAAGCGACCTTTGGGTGGCCGGAGCTCCAGCTGCCCTCTATGTCCA TGTTGACATCCAAGACATCTACCCAGAAGTTCTTCTTGAGGGTACTACAGGT CATCATCCAGCTCCGGGACGACACGCGCGGGCTAACAAAGAAAGCCAAAGCA GACAGGCAGGCTAGGTTCCCTCCGGTTTAGGCTCAGCTAGCAGCATCCAGGC AGCTGTTCCGAGCTGGAGCTGAGGCTGAGGCTGATGCCATTATACAAATGGTACG TGAGGGTCAAAGGGCGGAGACAGCAACAAAGCAGCAACGTCGGAGTCTA GCCAGTCAGAGCGCTCTGTCCGGAGGAGGAATCACCCATGGATGTGGAC				PSGSNVDTLRLRGRLLD HEALSCILLVLLFVDEPKLNT SRLHRLNLCYHAQTRH WVIRSLILQRSESELCIE TPKLTSEEKGGKSSKSCG SSSHENRPLDLLHKMESKS SNQLSWLSVMDAALGCR TNIFIQRSGGRKHTEKHA SGGSTVHIHPAAAPVCRH VLDTLQLAKVPFHSHTQQR TKETNCESDRERGNKACS PCSSQSSSSGICTDFWDL VKLDNMNVSRKGKNSVKS VPVSAGGEGETSPYSLEAS PLQLMNMMLSHPVIRSSL LTEKLLRLSLISIALPENKV SEAQANSNGSGASSTTTATS TTSSTTTTAASTTPTPTAP TPVTSAPALVAATAISTIVA ASTVTPTTATTATTSISPT TKGSKSPAKVSDGSSST DFKMVSSGLTENQLQSVE VLTSHCSEEGLEDAANVL LQLSRGDSGTRDTVLKLL NGARHLGYTLCKQIGTLA ELREYNLEQRRACQETLS PDGLPEEQPQTTKLKGM QSRFDMANVVIVASQKRP LGGRELQPLSMMLTSKTS TQKFFLRVLQVILRDDT RANKKAKQTGRLGSSGLG SASSIAAVRQLEAEADAI QMVREGQRARRQQAAT SESSQSEASVRREESPM VDQPSQAQDTQSIASDGT PQGEKEKEERPELPLSE QLSLDELWMLGECLKELE ESHQHAVLVLPVAVEAFF LVHATERESKPPVRDTRES
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				CAGCCATCTCCAGTGCTCAAGATACTCAATCCATTGCTCCGATGGAACCC CACAGGGGAGAGAAAGGAAGAAAGACCACTGAGTTACCCCTGCTCA GCGAGCAGCTGAGTTGGACGAGCTGTGGACATGCTTGGGAGTGCTAA AGAACTAGAGGAATCCCATGACCAGCATGCGGTGCTAGTGTACAGCCTG CTGTCGAGGCCTTCTTCTGGTCCATGCCACAGAGCGGGAGAGCAAGCCTC CTGCCGAGACACCCGTGAGAGCCAGCTGGCACACATCAAGGACGAGCCTC CTCCACTCTCCCTGCCCCCTTAACCCAGCCACGCTTCTCCTCCCTGACCC ATTCTTCCCGGAGCCCTCATCTATGCACATCTCTCAAGCCTGCCCCCT GACACAGAAAGTCTTCCGCTTGCAGAGACTCACCGCACTGTGTTAAACC AGATCCTACGGCAGTCCACGACCCACCTTGTCTGATGGCCCTTGTCTGCTCT GGTAGACTACATTGCTGCTCTCGACTTGTGATGCAAGCGCAATATTTCCGC CAAGAGCTGGAGCGTTTAGATGAGGGGCTCCGGAAGAACACATGGCTGTG CATGCTCGTGCATGCTGTTTGAAGACTCCTATCGTAGCTGCATCGCA AATCCCCGAAGAAATGAAGATCGATTGTATATAGTATTTGAAGGAGAGAA GGCAGGATGCTGGCGGCTCTCGGGAGTGGTATATGATCATCTCTCGA GAGATGTTAACCCCTATGATGCTTGTTCGGTACCTCACCTGGTGATCGAG TCACCTACACCATCAATCCATCTTCCCACTGCAACCCCAACCACTCAGCTA CTTCAAGTTTGTGGACGCTATGTGGCCAAAGCTGTATATGACAACCGTCTT CTGGAGTGTACTTTACTCGATCCTTTTACAAACACATCTTGGCAAGTCAGT CAGATATACAGATATGGAGAGTGAAGATTACCATTCTACCAAGTCTGTTTT ATCTGCTGAAATATGATGCTCCACATAGGCTATGACCTCACCTTCAGCAC TGAGGTCCAAGAGTTGGAGTTTGTGAAGTTCTGACCTCAACCCCAATGGG GCCAATCTTGTGAACAGAGGAGAAATGAAGAGATGTACACCTGGTAT GCCAGATGAGATGACAGGAGCCATCCGCAAGCAGATTGGCGGCTTCTTAG AAGGCTTCTATGAGATCATTTCAAAGCGCTCATTTCCATCTTCACTGAGCAG GAGTTAGAGCTGCTTATATCAGGACTGCCACCATTTGACATCGATGATCTGA AATCCAACACTGAATACCACAACTACCACTCAACTCTATTAGATCCAGTG GTTCTGGAGAGCATTGCGTTCTTTCGATCAAGCTGACCGTGCCAAAGTTCCCTC CAGTTTGTACGGGTACTTCCAAGTACCCCTGCAAGGCTTGTCTGCCCTCG AAGGCATGAATGGCATTGAGAAAGTTTCAGATCCATCGAGATGACAGGTCAC AGATCGCCTGCCTCAGCTCACACATGTTTTAATCAGCTGGATCTGCCCTGCC TATGAGAGCTTTGAGAAGTCGCCACATGCTACTGTTGGCTATCCAGGAGTG CTCTGAAGGCTTTGGGCTGGCCTAATAAGGCCCTGCCCAACTCCGTGGGT TTTTTTTACCATGTTGGACCTGGGGAGGGGGAGTTAAAAAAGAACACAGA AAGAAATTGTCAAAAACCAATAAATGAAATCCACCAACTCACCGTGTGTGCC CAGTGCCTCCATCTTCCCAGCGCATACCTGTTCTCTCTCTCTCATCTCTCCC CGCCGCTGTTTCTCACCTTCTCTCCCCCTTCCATGCCGTCCATGATCCCC ACCCCATGTGTTTTAAAAAGGCAGTAG				QLAHIKDEPPPLSPAPLTPA TPSSLDPPFSREPSSMHIS SSLPPDTQKFLRFAETHRT VLNQILRQSTTHLADGPFA VLVDYIRVLDFDVVKRYFR QELERLDEGLRKEDMAVH VRRDHVFEDSVRELHRKSP EEMKNRLYVFEEGEGQDA GGLLREWYMIISREMFPNM YALFRTSPGDRVYTYNPS HCNPNHLSYFKFVGRIVAK AVYDNRLLCEYFTRSFYKHI LGKSVRYTDMESDYHFY QGLVYLLENDVSTLGYDLT FSTEVQEFVCEVRDLKPN GANILVTEENKKEYVHLVC QMRMTGAIRKQLAAFLLEGF YEIPKRLISIFTEQELELLIS GLPTIDIDDLKSNTEYHKYQ SNSIQIWFWRALRSFDQA DRAKFLQFVTGTSKVPLOQ FAALEGMNGIQKFQIHRDD RSTDRLPSAHTCFNQLDLP AYSEFEKSATCYCWLRSRA LKALGWPNKALPNSVGFEL PLLDLGRGELKKEPERNCQ KPINEIHQLTVCVPAAPSSP AHTCSSSHSLPAACFLTFS PLSMPSMIPTPCVLKRQ*
Shigella	3	prev4411	85	CCGCAAAATGTTCCAGCACAAATCGGCTGCGGGAAATTTTTCTGCCCCGAGCA	286	RKCSQHNLREFFCPEHS		

ospC1					<p>CAGCGAGTGCATCTGCCACATCTGCCCTGGTGGAGCATAAGACCTGCTCTCC CGCGTCCCTGAGCCAGGCCAGCGCCGACCTGGAGGCCACCCTGAGGCACA AACTAACTGTCTATGACAGTCAGATCAACGGGCGTCGAGAGCACTGGATG ATGTGAGAAAACAGGCAGCAGGATGTGCGGATGACTGCAACACAGAAAGGTGG AGCAGCTACAACAAGAAATACACGGAATGAAGGCTCTCTTGGACGCTCAGA GACCACCTCGACAAGGAAGATAAGGAAGAGGAGAGAGGGTCAACAGCAA GTTTGACACCATTTATCAGATTTCTCTCAAGAAGAGAGTGAGATCCAGACCT TGAAGGAGGAGATTGAACAGAGCCTGACCAAGAGGGATGAGTTGAGTTTC TGGAGAAAGCATCAAACTGGAGGAATCTCAACAAAGCCAGTCTACATCCC CGAGGTGAACTGAACCAAGCTGATAAAAGGCATCCACCAGAGCACCAT AGACCTCAAAAACGAGCTGAAGCAGTGCATCGGGCGCTCCAGGAGCTCAC CCCCAGTTCAGGTGACCTGGAGAGCATGACCCAGCGTCCACACACAAATC CACACGCCCTGTGAAGAAGGTCTCCAAAGAGGAAAGAAATCCAAAGAAACCT CCCCCTGTCCCTGCCCTAACCCAGCAAGCTTCCCACGTTTGAGCCCCGGAA CAGTTAGTGATTAAACAAGCTGGCTTGGAGGCTGCAGCCAAAGCCACCA GCTCACATCCGAACCTCAACATCTCTCAAGGCCAAGGTGCTGGAGACCTTCT GGCCAAGTCCAGACCTGAGCTCCTGGAGTATTACATTAAGTCACTCTGGAC TACAACACCGCCCAACAAGTGGCTCTGTACAGAGTGTATACAGTAGCTT CTGTGGCTGAGATGCCTCAGAACCTACCGGCCGATCCCCAGAGTTCACAT ACTGCTCTCAGGTGCTGGCCTGCACTGCTACAAGAAAGGGATCCACTACT GGGAGGTGAGCTGCAGAAGAACAACTTCTGTGGGTAGGCATCTGCTACG GAAGCATGAACCGGAGCGCCAGAAAGCAGAGCTCGGCCGCAACAGCGCC TCTGTGCGTGGAGTGGTTCAACACCAAGATCTCTGCTGGCACATAACG TGGAGAAAACCCCTGCCCTCCACCAAGCCACGCGGTGGCGTCTCTCA ACTGTGACCCACCGCTTGTCTATCTTCTGCTGTGCGCACAAAGTCCACCT GATGATAAGTTCAGGGTGGACTTCTGAGGCTTTGACCCGGCTTCTGCG GTATTTCTGCTGGTGCCACACTCTCCAICTGCTCCCCCAAGTAG</p>
Shigella ospC1	3	prey/2686	86	287	<p>MEQLADVTLLRLLDNEVFD LDPDLQEPSQITKRDLEAP AQNEFFRAFFRLPRKEKLP AVVDCSLWTFPSRCHTAG RMFASDSYICFASREDGCC KIILPLREVWSIEKMEDTSL PHPIVIRSIRKVAQFIELRD RDSLVEALLARLKQVHANH PVHYDTSADDDMASLVFHS TSMCSDHFRFGDLEMMSSQ NSEESEKEKSPLMHPDALV TAFQQSGSQSPDSRMSRE</p>

Shigella ospC1	3	prey67368	87	CAGTACAATCTCAAAACCTTTTGAATGAGCCACCAATCACAATCTGAACCTAA GCTGAGTAACCTTGATG	288	LPDLQEPYQPPYTLVLE LTGVLLHPEWSLATGWRFK KRPGIETLFQQLAPLYEIVIF TSETGMTAFPLIDSVDPHG FISYRLFRDATRYMDGHHV KDISCLNRDPARVVVDCK KEAFRLQPYNGVALRPWD GNSDDRVLLDLSAFLKTI NGVEDVRTVLEHYALEDC LAAFKQRQSRLEQEEQQR LAELSKSNKQNLFLGSLTS RLWPRSKQP*
Shigella ospC1	3	prey67371	88	TGGGGGTGGGATGGGGTGTGTTNTNNNCTNTNTNTNTNTNTNTNTNTN ATTGNNNT NTTNT CAATTTTNCNATTAGCCGANANTNTATCTGTACTACTTCTCATNGATGA CNTATNGNCTTATANTCNTNTTNGAAGCNTGATTANGATTATTAANCTNTTT NCATNCGGATCCANTCNTN	289	WGVGMGFVXXXXXXFXXXXX WXXXXXLLWT*XIFFFLXFX LXXVGEKXKXFXXXSIFXI SRXSXS*YFIF*XIXLIXXX XDXDL*XXFXXGSGXX
Shigella ospC1	3	prey4005	89	CTCACAACTCTTTGAGAGAGCTGCTCTCAGGACCCCTCTGAGGAAGG TCCCGGTGATTTTGGCTTCTGTCATGCCAGTAGTAGCATCGAGTCGAGGCA AAACGAGCCAGCCTCAGCCCACTGTTGAAAGGAAACAAGATAAATCAAAA CTCTTTCCCTTGAGGAGGCTGTGACTTCCATTGAGCAGCTCTTCCAGCTCAG TGTTTCCATCGCTTCAACTTCTGGAACAGAGAACATGAAGAGTGCGGAC CACAGGCGAGCTTTTCTTACTTCCAGAAAGCTGCAGCCCCGCGGTACAGC AAAGCGCAGTACAATGCGGGCTTGTGTATGAGCATGGCAGAGGACCCCCC AGGACATTAGCAAGGCGGTCTTTATATCATGTTGGCTGCCAGCCAGGCG CACAGCTGGCTCAGTACCGCTATGCCAGGTGCCACTACTACGAGACCCAGCC TCTTCTGGAACCTGAGCGGCAGAGGGCAGTGTCTTCTGTAAGCAGGCT GCAGACTCAGGCTTGAGAGAGGCCCAAGCTTCTCGGGGTGCTTTTCAAC AAGGAGCCCTACCTGATGAGCAGAGAGCTGTGAATATCTTTGGCTTGAG CCAACAATGGGACTCACAGAGCAGGTACCACTTGAATTTGCTATGAGAA AGGCTTGGTGTGCAGAGGAATCTGGGAGAGGCTTGAGATGTTACCAAGCA GTCAGCCGCTCTGGGAAATGAGGCCGCGCCAGGAGGCTGCGAGCCCTCT TTTCCATGGGGCTGACGCCCGGGGGCCAGCGACCTGACAGTTACAGGA CTGAAGTCTTCTCAGCCCTCCCTCTGAGCTTGAACACCCCTGCTAGCAG GAACCTCAGCCTACCACATGCCTCGAGCACAGGCAACCTTGGCCTCCTCT	290	SHNSLRGARPDPSSEGP GDFGLHASSSIESEAKPA QPQTGEKEQDKSKTSLSE EAVTSIQQLFQLSVSIAFN LGTEENKSGDHTAASFYF QKAAARGYSKAYNAGLC HEHGRGTPRDISKAVLYQ LAASQGHSLAQRYARCL RDPASSWNPERQRAVSL KQAADSGLEAQAFLGVLF TKEPYLDEQRAVKYLWLA NNGDSQSRHYHLGICYEKL GVQRNLGEALRCYQQA LGNEAAQERLALFSMGAA APGPSDLTVTGLKSFSSPS LCSLNTLLAGTSRLPHASST GNLGLCRSGHLGASLEAS SRAIPHPYPLERSVRLG

Shigella ospC1	3	prey67380	90	GCAGAAAGTGGCATCTCGGAGCCAGCCTGGAAGCCTCCAGCAGGGCTATTC CCCCACACCCCTACCCACTGGAAAGGAGTGTTGTAAGACTAGGTTTTGGCTA A NNNGTCACT ATGTATCTCTCTTTAAATGTAAGTTTGTGTTTATAATTTTACATCTACTGA ATTAAATCTGAACAGTGACTTTGTGCAAAATAAATTTTGTCTCCATCTTGCC AAAAAGTCTGAATGTCAGGATGATTTCTCCAGGACATCTCTATTGCTCCCA AGTTTCAACAGTTTTTGGGAGCCAAAACCTCAGGATTTACCCCTANATCTGG TTAACATTTTGAAANATACANG	291	XXXXXXX F*M*VLCFIFHIY*IKSEQ*LC AK*ILLSILAKKS*MSRMISP GHLYCSQVSNFLGAKTSG FTLXLVNILKXYX	FG*
Shigella ospC1	3	prey3296	91	GGACCTGTCTCAGTGACACGGCCGACTGGAACACCTCTTTGAGTCTCG TGCCAAAGAGTGCTGCCCTCCAAGAAAGCTGGAGAGGCGCGCGGACAAT GACCACAGTGCTGGACCCCAAGCGCACGAACGCCATCAACATCGGCCATAAC CACACTGCCACCTGTGCATGTCAATTAAAGGTGCTCTGCTCAACTTTGATGAG TTTGTGTGTCAGCAAGGATGGCATTGAGAAGCTACTGACCATGATGCCACGG AGGAAGAGCGGCAGAAATTGAGGAGCCAGCTGGCCAAACCTGACATAC CCCTGGGCCAGCCGAGAACTTCTGATGACTCTTGCTCCATTTGGCGGCC TCGCTGCTGCTACAACTCTGGCCTTCAAGCTGAGCTGACTGACAGCATGGA GCGGAAATTGCTGAGCCACTGTTGACCTCCTGGCTAACCTCCTAGCTGTGGG GGTACAGAAATGCCACCTCCGCTGCATCCTGGCTAACCTCCTAGCTGTGGG CAACTCCTCAATGGCTCCAGAGACGGCTTTGAGCTGAGCTACCTGGA GAAGGTGTCAGATGTGAAGACACGGTGGCTGACAGTCACTGCTACACCA TCTGCTCCTAGTGTCCAGACCCGGCTGAGTCTCTGACCTCTATTCA GAAATCCCTGCCCTGACCCGCTGTGCCAAGGTGGACTTTGAACAGCTGACT GAGAACCTGGGGCAGCTGGAGCGCCGAGCCGGGAGCCGAGGAAAGCC TGCGGAGCTTGGCCAAAGCATGAGCTGCCCCCAGCCCTGCGTGCCCGCTC ACCCACTCCTGGACCAAGTGTGCCCGCGTGTGCCATGCTAAGGATAGTG ACCCGCGTGTCTCAATAGGTCCATGCTTCTGCTCTACCTGGGCTACA CCCCGAGCGCGCGTGAAGTGCATCATGAGTCTGCCACACGCTGC GGGAATTTGCGCTTGAATCGGACTTCCGCGGAACGAGTGTACAGCAGC AGCAGAAGCAGGCCACATACCGTGAGCGCAACAAGACCCGGGACGCGATG ATCACCGAGACAGAGAAGTTCTCAGGTGTGGCTGGGAAGCCCCCAGCAAC CCCTGTCTCCAGTAGCAGTGAAGTGTGAGCGGGGCGCGGGGAGATGCTGA CAGTCATGCTAGTATGAAGAGTCTGCTGACCAAGGCTTGAGGACACCCAC ACACAATCGCCGCGCAGAGAGGATGTTCCAGAGCAGCTCCCCAATCATGCC CACAGTGGGGCCCTCCACTGCATCCCCAGAAGAACCCAGGCTCCAGTTT ACCCAGTGATACATCAGATGAGATCATGGACCTTCTGTCAGTCAAGTACCC AAGAGCAGTCCCTCGTGCTTGTGCTAGGGAACGCAAGCGTCCCCGCGGC AACCAGCAAGTCTTTGAGAAGGACGTTGAAGAGTGGGCTCGGAGATGACCTG GTGAGGCACTGGGACTAAGCAAGGCTCCTGGCCTGGAGGTGTA	292	DPVSVDTARLEHLFESRAK EVLPCKKAGEGRRTMTT DPKRTNAINIGLTLPPVHV KAALLNDEFASFVSKDIEKL LTMPTEEEERQKIEGAQLA NPDIPLGPAENFLMTLASIG GLAARLQLWAFKLDYDSM EREIAEPLFDLVKVGMEQLV QNATFRCILATLLAVGNFLN GSQSSGFELSYLEKVSDVK DTVRRQSLHHLCSLVLTQ RPESDLYSEIPALTRCAKV DFEQLTENLQGLERRSRAA EESLRSKAKHELAPALRAR LTHFLDQCARRVAMLRVH RRVCNRFHAFLLYLGYTPQ AAREVRIMQFCHTLREFAL EYRTCRERVQQQKQAT YVERNKTGRMITETEFKS GVAGEAPSNPSVPVAVSS GPGRGDADSHASMKSLT SRLEDTHNRRSRGMVQS SSPIMPTVGPSTASPEEPP GSSLPSDTDEIMDLLVQS VTKSSPRALAAERKRSRG NRKSLRRTLKSGLDLVLQ ALGLSKGPGLEV*	

Shigella ospC1	3	prey2108	92	GCAGGAAGCTCAGAGTATCGATGAAATCTACAAATACGACAAAGAAACAGCAG CAAGAAATCCTGGCGGAGCCCTGGACTAAGGATCACCATTACTTTAAGT ACTGCAAAATCTCAGCATTTGGCTCTGCTGAAGATGGTATGATGCCAGATC GGAGGCAACTTGAAGTATGGTCTGATGCTAGGAAAGGTGGATGGTGA AACCATGATCATTATGGACAGTTTGCCTTGCCTGTGGAGGCACTGAAACC CGAGTAAATGCTCAGGCTGCTGCATATGAATACATCGGTGCATACATAGAAA ATGCAAAACAGGTTGGCGCCTTGAATGCAATCGGTGGTATCATAGCCA CCCTGGCTATGGTCTGGCTTTCTGGGATGATGTAGTACTCAGATGCTC AATCAGCAGTCCAGGAACCAATTTGAGCAGTGGTATGATCCCAACAGAA CAATATCCGAGGAAAGTGAATCTTGGCGCCTTAGGACATACCCAAAGG CTACAACTCTGATGAAGGACCTCTGAGTACCAGACTATCCACTTAATA AAATAGAAATTTGGTGTACACTGCAACAAATATATGCCTTAGAAGTCTCA TATTTCAAATCCTTTGGATCGCAATTTGCTGAGCTGTGTGGAATAATA CTGGTGAATACGTTGAGTCTTCTAGCTTCTTACTAATGCAGACTATACCA CTGGTCAGGCTTTGATTTGCTGAAAAGTTAGAGCAGTCAAGAGCCAGCT GGACGAGGAGTTCATGTTGGTTTGAACGCGATGACCGAAATCAGAA GACAACTTGCCAAAGCTACAAGAGACAGCTGTAACACTACCATAGAAGCTA TCCATGGATTGATGCTCAGGTTATTAAGGATAAACTGTTTATCAAAATTAACA TCTCTTAA	293	QEAQSIDEIYDKKQQKEI LAAPWTKDHHYFKYCKIS ALALLKMMMHARGGNLEV MGLMLGVKDVGETMIIMDSF ALPVEGTETRVNAQAAYE YMAAYIENAKQVGRLENAI GWYHSHPGYQWLGIDV STQMLNQGFQEPFVAVVID PRTISAGKVNLGAFRTYP KGYKPPDEGPSEYQTIPLN KIEDFGVHCKQYALEVS FKSSLDRLKLELLWNKYWV NTLSSSSLLTNADYTTGQV FDLSEKLEQSEAQLGRGSF MLGLETHDRKSEDKAKAT RDSCKTTIEAHGLMSQVIK DKLFNQINIS*
Shigella ospC1	3	prey67403	93	TGGGGCATCTGGCAGGAGCTTTGGATTTCTTTAGGAAATGGCAATCAGA TGGGGCAGAGTGTTTTTCTGAGGGAATCAGAAATGATCCCTCAACAGCAC CTTTGATCTCTATCTCTGCTAAGATGGTCTCTCTACTTCCCCAGACCC CCGTGCTGTTCCATTTCCATGAATTTTCATCAGGTTACAGGACAAAGGTT TAGTCTTTGGTCTAATGAGACCTCTGACTTGGCTCTGGATGACTATGAAAC TAGTGAATGCAATTTGCTTTTCTGGAATCCN	294	LGHGRSFGFL*GNGNQM GQSVFC*GNQNDPSNSTF DLYSLLKMLVPLLPQTPVSV PFP*IFHQGHRTKVLVFGSN ETSDALDDYETSECICLF WNP
Shigella ospC1	3	prey67405	94	GCTAATATGGTAGCTATTGATAGCTTACTATGTATCAGATCCNNNNNNNN NN NN NN GCTAGGACTACAGTGGTGAGCCACCACCATGCCAGCTAATTTTTTTTTTTN NNNAAAAAGGNNNTTNTNTNTNTGCGGNGGNGGNTNAANCTNTNNC CTNANGGNATTNCCNCCCTNGNCCNCCAAANGGCGNGANTT	295	ANMVAIDSLLCIRSXXXXXX XXXXXXXXXXXXXX XXXXXXX*E*LGLQW*A TMPS*FFFFFFXKXXXXXX PXXVXXSXPPXPPX GXX
Shigella ospC1	3	prey14400	95	GGCGGAGGAGGACTGAGTGTGCTGAGCCCCCGGACGAAACCCCGGCTG ATGAGCTCTGAAGCGGCGAGGAGCTCAAGACTCAGGCCAATGACTACT TCAAAGCCAAAGGACTACGAGAACGCCATCAAGTTCTACAGCCAGGCCATCG AGCTGAACCCAGCAATGCCATCTACTATGGCAACCGCAGCCTGGCCTACC TGCGCACTGAGTGTATGGTACGCGTGGGAGACGCCACGCGGGCCATT GAGCTGGACAAGAAGTACATCAAGGTTATTACCGCGGGCTGCCAGCAAC ATGGCACTGGCAAGTTCCGGCGCGCTGCGAGACTACGAGACGCTGGT CAAGGTGAAGCCCATGACAAGGATGCCAAATGAAATACCGAGGTGCAA	296	GERTECAEPPRDEPPADG ALKRAEELKTQANDYFKAK DYENAIKFYSQAIELNPSNA IYGNRSLAYLRTCYGYA LGDATAIELDKYIKGYR RAASNMALGKFRAALRDYE TVVKVPHDKDAKMKYQE CNKIVKQKAFERAIAAGDEH

Shigella ospC1	3	prey50029	96	CAAGATCGTGAAGCAGAAAGGCCCTTTGAGCGGGCCATCGCGGGCGACGAGC ACAAGCGCTCCGTGGTGGACTCGCTGGACATCGAGAGCATGACCAATTGAGG ATGAGTACAGCGGACCCAAAGCTTGAAGACGGCAAAGTGACAATCAGTTTCAT GAAGGAGCTCATGCAGTGGTACAGGTCAAGGACCAAGAAACTGCACCGGAAATG TGCTACCAAGATTCTGGTACAGGTCAAAGAGGTCCTCTCCAAGCTGAGCACG CTCGTGAACACCACTCAAAGAGACAGAGAAAGATTACAGTATGTGGGACA CCCATGGCCAGTTCTATGACCTCTCAACATATTCGAGCTCAACGGTTTACC CTCGGAGACCAACCCCTATATATTAATGTTGACTTTGTGACCGAGGCTCC TTCTCTGTAGAAAGTATCCTCACCCCTTTTCGGCTTCAAGCTCTGTACCCAGA TCACCTTTACCTCCTTCGAGGCAACCAACGAGACAGACAACATGAACAGATC TACGGTTTCGAGGGTGAGGTGAAGGCCAAGTACACAGCCAGATGATACGAG CTCTTTAGCGAGGTTCGAGTGGCTCCCGTGGCCAGTGCATCAACGGC AAAGTCTGATCATGCACGGAGGCTGTTCAAGTGAAGAGGTTGTCACCCCTG GATGACATCCGAAATGAGCGGAATCGAACACCCAGATTCAAGGGCC ATGTGTACCTGCTCTGTCAGATCCACAGCCACAGACGGGCTCGATC AGCAAGGGGGGTGAGCTGTGAGTTGGGCTGACGTCAACCAAGGCTTC TTGGAAGAGAACCACTGGACTATATCATCCGAGCCAGAACTCAAGGCC GAGGGTACGAGGTGGCTACGGGAGGCGCTGTGTCACCGTCTCTCTGCC CCCAACTACTGCGACCATGGGGAACAAAGCTCTACATCCACCTCCAG GGCTGTGACCTACGGCCTCAGTCCACAGTTCACAGCAGTGCCTCATCCCA ACGTCAAGCCCATGGCCTATGCCAACACGCTGCTGCAGCTAGGAATGATGT GA	KRSWDSLDIESMTIEDEYS GPKLEDGKVTISFMKELMQ WYKDKKLHRKCAQILVQ VKEVLSKSLTVETTLKETE KITVCGDTHGQFYDLLNIFE LNLPSSETNPYIFNGDFVD RGSFSEVILTLFGFKLLYP DHFHLLRGNHETDNMNQIY GFEGEVKAKYTAQMVELFS EVFEWLPLAQINGKVLIM HGGLFSEDTVLTDDIRKIE NRQPPDSGPMCDLLWSDI QPQNGRSISKRGVSCQFG PDVTKAFLEENLDYIRSH EVKAEGYEVAHGRCVTV FSAPNYCDQMGNKASYIHL QGSDLRPQFHQFTAVPHP NVKPMAYANTLLQLGMM*
Shigella ospC1	3	prey50029	96	CTCACCTCTGAAATCCACAGCTCAATGACTGGAGGCTCTCTCCACCCACT CAAGACATTGCCAGGAACGTCTTAAGACCTCAGGAGACCACTTCTTTAGTAA GCAATTTTTAGATGGATTCTCACTCTGTCACTCAGGCTGGAGTGCAGTGGC GCGGCTCTGCTCACTACACCTCCTCTCTGCTGCTCCTGCGGTATGATTT TCTCCTTCTCCTCATGCTGCTGTAGGGACCATAGCTCTGTCCCTGCAT ACATGTTGGACATCAATCAGATCAGTCCACCAAGTAACCTCATCAAGCACCCA TGACGCCACGACAGCGTCCCAAGGTTGCCCACTTACCCACAGAAAG AAAGGCACTTTGGTAAGAGATCTGACTCTAGCTCCAGTTCTGTCTCTAGCT AACGTGAGATGCACCCGGTTGAGGGCTGTTTTTAATGTTGAAATGAAGG ACTGAACCTTAGATGGTCCAACTGAAATGTTTTAAATGATATGATCTACCTTA AAAAGAGAATGAAATCTGATATATTCACAAACACAGGAAACCTTGAAACGCT TATGCTAAATGAAATAAGGGAGACATGAAAGGACAAATATATGACTCCACTTA TGATGATGCTCCCTCAATAGACAAACCATAGAGACAGAAAGTAGACAGTGGG TGCTAGGGGTTGCTGGAGGGGCAATGGAGAGTTAGTGTATGATGGGTACAG TGTCACAGTGGCTGCTGTCTATGGAGTAGGCACTCTTGGGCTCTCTTACT TCTCTAATAAACTCGCTCACACTTAAAGAAAAAGCTCTGGAGATTGATAG	LTSEIPLQNDWRLSPHSHR HCQERLKTSGDHFHFSKQFF RWILTLRLRLECSGAVSAH YTLPLAPARMYFSFSPCLL CRDHSCLPCIHVGHQSHQ STK*LHQAPMYAQHSVPRV PHLPTEERQLW*E*LLAP VLSLANVRCITRLRAVF*LLK MKD*T*MVQLKCFKMI*FYL KKRMKF*YHNTGNP*KRYA K*NGDMKQIYDSTYVMS LK*TTT*RQKVDSGC*GLLE GQWRVSV*WVQCHSGCSV YGVGTLGSLYFSNKLHAT* KEKALEID
Shigella	4	prey67563	97	GCTGTGTTGAGAGGCGATGCAGAAAGCAGTGAAGGGCATAGGATCCGGCAAA	AVLRGDAEAVKIGSGKVL

ipaD					GTCCTGAAGAGTGGCCCCCAGGATCACGTGTTCAATTACTTCACTGACCATG GATCTACTGGAATACTGGTTTTTCCCAATGAAGATCTTCATGTAAGGACCTG AATGAGACCATCCATTACATGTACAAACACAAAATGTACCGAAAGATGGTGT CTACATTGAAGCCTGTGAGTCTGGTCCATGATGAACCACTGCCGGATAAC ATCAATGTTTATGCAACTACTGCTGCCAACCCAGAGAGTCGTCTACGCCT GTTACTATGATGAGAAGAGTCCACGTACCTGGGGACTGTTACAGCGTCA ACTGGATGGAAGACTCGGACGTGGAAGATCTGACTAAAGAGACCCCTGCACA AGCAGTACCACCTGGTAAATCGCACACCAACACCCAGCCACGTATGCAGTA TGAAACAAAACAATCTCCACCATGAAAGTGCAGTTTCAGGGTATGAAA CGCAAGCCAGTTCTCCCGTCCCCCTACCTCCAGTACACACCTTGACCTCA CCCCAGCCCTGATGTGCTCTCACCATCATGAAAAGGAACTGATGAACAC CAATGATCTGGAGGAGTCCAGGCAGCTCACGGAGGAGATCCAGCGGCATCT GGATGCCAGGCACCTCATTGAGAAGTCAGTGCCTAAGATCGTCTCTTGCTG GCAGCGTCCGAGGCTGAGGTGGAGCAGCTCCTGTCGAGAGAGCCCCGCT CACGGGGACAGCTGCTACCCAGAGGCCCTGCTGCACTTCCGGACCCACTG CTTCAACTGGCACTCCCCACGTACGAGTATGCGTTGAGACATTTGTACGTG CTGGTCAACCTTTGTGAGAAGCCGTATCCACTTCACAGGATAAAATTGTCCAT GGACCACGTGTGCTTGGTCACTACTGA			KSGPQDHFVIFYFTDHGSTG ILVFPNEDLHVKDLNETIHY MYKHMYRKMVFYIEACES GSMNHLPDNINVYATTAA NPRESSYACYDEKRSTYL GDWYSVNMWEDSDVEDLT KETLHKQYHLVKSHTNTSH VMQYGNKTISTMKVMQFQ GMKRKASSPVLPPVTHLD LTPSPDVPLTIMKRKLMT NDLEESRQLTEEIQRHLD RHLIEKSVRKIVSLLAASEA EVEQLLSERAPLTGHSCYP EALLHFRTHCFNWHSPTYE YALRHLVYLVNLCCKPYPL HRIKLSMDHVCGLGHY*
Shigella ipaD	4	prey2109	98		GACTAAGGATCACCATTACTTTAAGTACTGCAAAATCTCAGCATTTGGCTCTTC TGAAGATGGTGTGATGCATGCCAGATCGGGAGGCAATTTGGAAGTATGGGTC TGATGCTAGGAAGGTGGATGGTGAACCATGATCATATTATGACAGTTTTTGC TTTGCCTGTGGAGGCGACTGAACCCGAGTAAATGCTCAGGCTGCTGCATAT GAATACATGGCTGCATACATAGAAAATGCAAAACAGGTTGGCCGCTTGAAA ATGCAATCGGGTGGTATCATAGCCACCTGGCTAGCTATGGCTGGCTTTCTGG GATTGATGTTAGTACTCAGATGCTCAATCAGCAGTTCAGGAACCATTTGTAG CAGTGGTATTGATCCACAAGAACAAATATCCGAGGGAAAGTGAATCTTGG CGCCTTTAGGACATACCCAAAGGCTACAAACCTCCTGATGAAGGACCTTCT GAGTACCAGACTATCCACTTAATAAAATAGAAGATTTTGGTGTACACTGCAA ACAATATTATGCCTTAGAAGTCTCATATTTCAAATCCTCTTTGGATCGCAAAAT GCTTGAGCTGTTGTGGAATAAATACTGGTGAATACGTTGAGTCTTCTAGCT TGCTTACTAATGCAGACTATACCACTGGTCAGGCTTTTGATTTGTCTGAAAAG TTAGAGCAGTCAGAAGCCAGCTGGGACGAGGGAGTTTCATGTTGGGTTTA GAAACGCATGACCGAAAATCAGAAGACAAACTTGCCAAAGCTACAAGAGACA GCTGTAAACCTACCATAGAAGCTATCCATGGATTGATGTCTCAGGTTATTAAAG GATAAACTGTTTAAATCAAATTAACATCTCTTAA			TKDHHYFKYCKISALALLKM VMHARSGGNLEVMGLMLG KVDGETMIIMDSFALPVEGT ETRVNAQAAAYEYMAAYIE NAKQVGRLENAIGWYHSH PGYGCWLSGIDVSTQMLN QQFQEPFVAVVIDPRTISA GKVNLAGFRTPKGYKPPD EGPSEYQTIPLNKIEDFGVH CKQYVALEVSFKSSLDK LLELLWNKYWVNTLSSSS LTNADYTTGQVFDLSEKLE QSEAQLGRGSFMLGLETH DRKSEDKAKATRDCKTT IEAIHGLMSQVVKDKLFNQIN IS*
Shigella ipaD	4	prey25185	99		GGGCAATAAGGCCTGTAGCCCATGCTCCTCACAGTCTCCAGCAGTGGCAT TTGCACAGACTTCTGGACTTATTGGTAAAACTGGACAACATGAATGTCAGC CGGAAAGGCAAGAACTCCGTGAAGTCAGTGCCAGTGAGCGCTGGCGGTGA GGGGGAAACCTCTCCATACAGCCTCGAGGCCCTCTCCACTGGGGCAGCTCAT	300	GNKACSPCSSQSSSGICT DFWDLVLKLDNMNVSARKG KNSVKSVPVSAGGEGETS PYSLEASPLGQLMNMMLSHP	

				GAACATGTTGTACACCCAGTCATCCGCGGAGCTCTCTTAACCTGAGAAA CTCCTCAGACTCCTTCTCTCATCTCAATTGCTCTCCAGAAAACAAGTGTC AGAAGCACAGGCTAATCTGGCAGCGGTGCTTCTCCACCACTGCCAC CTCAACCACATCTACCAACCACCACTGCCGCTCCACCAAGCCACACC CCCTACTGCACCCACCCCTGTCACTTCTGCTCCAGCCCTGGTGTGCCAC GGCTATTTCCACCATGTCGTAGTCTGCTTCGACCACAGTACTACCCCAAG ACTGCTACCACTACTGTTTCAATTTCTCCCACTACTAAGGCGAGCAATCTCC AGCGAAGGTGAGTGATGGGGCAGCAGCAGTACAGACTTTAAGATGGTGTC CTCTGGCCTCACTGAAAACCACTACAGCTCTCTGTAGAGGTGTGACATCC CACTCTTGTCTGAGGAAGGCTTAGAGGATGACGCAACGTACTACTGCAGC TCTCCGGGGGAGCTCTGGACCCGGGACACTGTTCTCAAGCTGCTACTGA ATGAGCCCGCCATCTGGGTTATACCTTTGTAACAAATAGTACCTGCT GGCGAGCTGGGGAATACAACCTCGAGCAGCAGCGCGGAGCCCAATGTG AAACCTCTCTCTGATGGCTGCTGAGGAGCAGCCACAGACCCCAAGC TGAGGGCAAAATGCAGAGCAGGTTGACATGGCTGAGATGTGGTAATTGT GGCATCTCAGAAAGCAGCTTGGTGGCGGGAGCTCCAGCTGCCTCTAT GTCCATGTTGACATCCAGACATCTACCCAGAAGTCTCTTGAGGGTACTA CAGGTATCATCCAGCTCCGGACACACACGCGCGGCTAACAGAAAGCC AAGCAGACAGGAGGCTAGTTCTCCGTTTAGGCTCAGCTAGCAGCATC CAGGCAGCTGTTCCGACGCTGGAGGCTGAGGCTGATGCCATTACAAATG GTACGTAGGGTCAAAGGGCGGAGACAGCAACAGCAGCAACGTCGGA GTCTAGCCAGTCAGAGGCTGTCTCCGAGGGAGGAATACCCCATGGATGT GGACCAGCATCTCCAGTCTCAAGTACTCAATCCATTGCCTCCGATGA ACCCACAGGGGAGAAAGAAAGGAAAGAACCACTGAGTTACCCCTG CTCAGCGAGCAGCTGAGTTGGACGAGCTGTGGACATGCTTGGGGAGTGT CTAAAGGAAC TAGAGGAATCCCATGACCAGCATGCGGTGCTAGTGCTACAG CCTGCTGTGAGGCTTCTTCTGTGTCATGCCACAGAGCGGAGAGCAAG CCTCCTGTCGAGACACCCGTCAGAGCCAGCTGGCACACATCAAGGACGAG CCTCCTCCACTCTCCCTGCCCTTAAACCCAGCCACGCTTCCCTCCCTG ACCCATTCTCTCCGGAGCCCTCATCTATGCACATCTCCTCAAGCCTGCC CCCTGACACACAGAAGTCTTCCGCTTTCAGAGACTCACCGCACTGTGTTA AACCAGATCTACGGCAGTCCAGACCCACCTTGTGATGGGCTTTTGCTG TCCTGGTAGACTACATTGCTGCTCGACTTGTATGATCAAGCGCAATATTC CGCCAAGAGCTGGAGCGTTTAGATGAGGGGCTCCGAAAGAGACATGGCT GTGCATGTCGCTGACCATGTGTTTGAAGACTCCTATCGTGAGCTGCATC GCAAATCCCCGAAGAAATGAAGATCGATTGTATAGTATTTGAAGGAGA AGAAGGGCAGGATGCTGGCGGCTCCTCGGGAGTGGTATATGATCATCTC TCGAGAGATGTTTAAACCTATGATGCCTTGTTCGTCACCTCACTGGTATC GAGTCACCTACACCATCAATCCATCTTCCACTGCAACCCCAACCCCTCAG				VIRRSLLTEKLLRLLSLISIA LPENKVSEAAQANSNGSAS STTTATSTTTTAASTT PTPTAPTPTVSAPALVAAT AISTIVAASSTVTPTTATT TVSISPTTKGSKSPAKVSD GGSSSTDFKMSVSGLTEN QLQLSVEVL TSHSCSEGL EDAA NVLLQLSRGDSGTRD TVKLLNGARHLGYTLCK QIGTLAELREYNLEQQR AQ CETLSPDGLPEEQPTT KLKGKMQSRFDMENNVIV ASQKRPLGRELQLPSMS MLTSKTSTQKFFLRVLQVII QLRDDTRANKKAKQTGR LGSSGLGSASSIAQAVRQL EAEADAIQMVREGQRARR QQQAATSESSQSEASVRR EESPMVDVQSPSAQDTQ SIASDGTPOQEKEKEERPP ELPLSEQLSLDELWMLG ECLKEEESHQHAVLVQ PAVEAFFLVHATERESKPP VRDTRESQLAHIKDEPPPL SPAPLTPATPSSLDPFPSR EPSSMHISSSLPPDTQKFL RFAETHRTVLNQILRQSTT HLADGPFVAVLDYIRVLD VKRKYFRQELERLDEGLR EDMAVHVRDRDHVFDYSYR ELHRKSPEEMKNRLYIVFE GEEGQDAGLLREWYMIIS REMFPNMYALFRTSPGDR VITYINPSSHCHNPNHLSYF KFVGRIVAKAVYDNRLLC YFTRSFYKHILGKSVRYTD MESEDYHFYQGLVYLLEND VSTLGYDLTFSTEVQEFGV
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Shigella ipaD	4	prey53990	100	CTACTCAAGTTTGTGGACGCAATTGTGGCCAAAGCTGTATATGACAACCGT CTTCTGGAGTGTACTTTACTCGATCCTTTTACAAACACATCTTGGGCAAGTC AGTCAGATATACAGATATGGAGAGTGAAGATTACCACTTCTACCAAGGTCTG GTTATCTGCTGGAAATGATGTCTCCACACTAGGCTATGACCTCACCTTCAG CACTGAGGTCCAAGAGTTTGAGTTTGTGAAGTTCTGACCTCAAACCCCAAT GGGCCAACATCTTGGTAACAGAGGAGATAAGAAAGGAGTATGTACACCTG GTATGCCAGATGAGATGACAGGAGGCCATCCGCAAGCAGTTGGCGGCTTTC TTAGAAAGCTTCTATGAGATCATTCCAAGCGCTCATTTCCATCTTCACTGA GCAGGATTAGAGCTGCTTATATCAGGACTGCCACCACTTACATCGATGAT CTGAAATCCAACACTGAATACCAAGTACCAGTCCCACTCTATTAGATCCA GTGTTCTGGAGAGCATTGCTTCTTTCGATCAAGTACCCTGCAAGGCTTGTGCC CTCCAGTTTGTACGGTACTTCCAAGTACCCTGCAAGGCTTGTGCC TCGAAAGCATGAATGCGTTCAGTCAACATGTTTATCAGATCCAGATGACAGGTC CACAGATCGCTGCTTCAAGTCAACATGTTTATCAGCTGGATCTGCCT GCTATGAGAGCTTGAAGTCCGCCACATGCTACTGTTGGCTATCCAGGA GTGCTGAAGGCTTGGGCTGGCTAATAGGCCCTGCCAACTCCGCTGG GGTTTTTTTACCATTGTTGGACCTGGGAGGGGGAGTTAAAAAAGAACCC AGAAAGAAATTGTCAAAACCAATAAATGAAATCCACCACTACCCGTGTGTG TCCCAGCTGCCCATCTTCCCCAGGCATACCTGTTCTCTTCTCATCTCTC CCGCGCGCTGTTCTCCTCACCTTCTCCTCCCTTCCATGCCGTCCATGATCC CCACCCCATGTTTTTAAAGGCGATAG	CEVRDLKPNGANILVTEEN KKEYVHLVCQMRMTGAIRK QLAAFLGFEYIIPKRLISIFT EQELELLISGLPTIDIDLKS NTEYHKYQNSIQWFWR ALRSFDQADRAKFLQFVTG TSKVPLQGFALLEGMNGIQ KFQIHRDDRSTDRLPSTHT CFNQLDLPAYESFEKSATC YCWLSRSALKALGWPNKA LPNSVGFPLDLGRGEL KKEPERNCQKPINEIHQLTV CVPAAPSSPAHTCSSSHSL PAACFLTFSPLSPMPSMIPTP CVLKRQ*
Shigella ipaD	4	prey9120	101	GCACCTATACCCCGGTGACTGTCCCAACTTTGCGGCTCCCGCAGAGAGG TGGACCAACCTCTACAGGGGCTGACCCCATCTTGCAGACGCCCTCGCCT CCGACCCCATCCCAACCCCTTCAAGAGTGGAGGACAGGCCCCACAAAGC CACAGAGCCTAGACACTGATGACCCCGCAGCTGTACCCGTGGTGAGA ACGTGCCCCGTTGCGCTGGAAGGAATTCGTGCGGCGCTAGGGCTGAGC GACCACGAGATCGATCGGTGGAGCTGCAGAACGGCGCTGCTGCGCGA GGCGCAATACAGCATGCTGGCGACCTGGAGGCGGCGCACCGCGCGCGC GAGGCCACGCTGGAGCTGCTGGAGCGCTGCTCCGCGACATGGACCTGCT GGGCTGCTGGAGGACATCGAGGAGGCGCTTGGGCGCCCGCGCCCTCC CGCCCGCGCCAGTCTTCTCAGATGA	TYTPGDCPNFAAPRRREVAP PYQGADPILATALASDPIPN PLQKWEDSAHKPQSLDTD DPATLYAVVENVPPLRWKE FVRRGLSDHEIDRLQLQN GRCLREAYQSMLATWRRR TPRREATLELLGRVLRDM LLGCLEDIEEALCGPAALP APSLLR*
Shigella ipaD	4	prey9120	101	GCCACGCGCTCCTCTGCGTGGCGCTGGGAGCAGCGTGGCGGGGTGCG GCTCCTGCAGGACTCGGTGGACTTCTCGTGGCGGACGCCATCAACACCGA GTTCAAGAACACCCGACCAACGAGAGGTGAGCTGCAGGAGCTGAATGA CCGCTTGGCCAACTACATCGACAAGTGGCTTCTGGAGCAGCAGATAA GATCCTGCTGGCCGAGCTCGAGCAGCTCAAGGGCCAAAGGCAAGTGGCGCC TAGGGGACCTCTACGAGGAGGAGATCGGGAGCTGCGCGGCGAGGTGGAC CAGCTAACCAACGACAAAGCCCGCTGAGGTGGAGCGCGACACCTGGC CGAGGACATCATGCGCTCCGGGAGAAATTGAGGAGGAGATGCTTCAGAG	ATRSSAVRLRSSVPVGRLL QDSVDFSLADAINTEFKNT RTNEKVELQELNDRFANYI DKVRFLEQQNKILLAELEQL KGQKSRGLGDLYEEMRE LRRQVDQLTNDKARVEVE RDNLAEDIMRLREKLQEEM LQREEAENTLQSFQRQDVD

Shigella ipaD	4	prey67571	102	AGAGGAAGCCGAAACACCCCTGCAATCTTTTCAGACAGGATGTTGACAATGCG TCTCTGGCACGCTTGAACCTTGAACGCAAGTGAATCTTTGCAAGAAGAGA TTGCCCTTTTGAAGAACTCCACGAAGAGAAATCCAGGAGCTGACGGCTCA GATTCAGGAACAGCATGTCCAAATCGATGTGGATGTTTCCAAAGCTGACCTC ACGGCTGCCCTGCGTGACGTACGTACGCAATATGAAAGTGTGGCTGCCAAG AACCTGCAGGAGGAGCAAGAAATGGTACAAATCCAAAGTTTGTGACCTCTCTG AGCTGCCAACCGGAACAATGACGCCCTGCGCCAGGCAAGCAGGAGTCC ACTGAGTACCGGAGACAGGTGCGTCCCTCACCTGTGAAGTGGATGCCCTT AAAGGAACCAATGAGTCCCTGGAACGCCAGATGCGTGAATGGAAGAGAAC TTTGCGTTGAAGCTGCTAACTACCAAGACACTATTGGCCGCTGCAGGATG AGATTGAGAAATGAAGGAGGAAATGGCTGTCACCTTCGTGAATACCAAGA CCTGCTCAATGTTAAGATGCCCCCTTGACATTGAGATTGCCACCTACAGGAAG CTGCTGAAGCGGAGGAGGAGGAGGATTTCTGCTGCTCTTCCAACTTTTCT CCCTGAACCTGAGGGAACATACTGAGATTCACTCCCTCTGTTGATACCCA CTCAAAAGGACATTCCTGATTAAAGACGGTTGAACTAGAGATGGACAGGTT ATCAACGAACTTCTCAGCATCAGCATGACCTTGAATAA		NASLARLDLKERKVESLQEEI AFLKKLHEEEIQELQAQIE QHVQIDVDVSKPDLTAALR DVRQQYESVAANKLQEA EWYKSFADLSEANRNN DALRQAKQESTERYRQVQ SLTCEVDALKGTNESLERQ MREMEENFAVEAANYQDTI GRLODEIQNMKEEMARHL REYQDLLNVKMALEDIEATY RKLEGEESRISLPLNFS LNLRETNLDSLPLVDTHSK RTFLIKTVETRDGQVINETS QHDDLE*
Shigella ipaD	4	prey67572	103	CCNTANTTGGAGACTANCCNTGGTCCGNCCTGGAAGGATCACCTTATGT NCAGATGCAAGTTCTGATGCAGNAGTCTGGGAGANCCNCACTCTGCN TTCCNCAAGGTGCGAGTGGTANGATGCTGCGGTCCAGGAGGAGCTG CTTTTGAGGGTGAGCGGTGGANGGTGCAACACNCCCGGACCCCTCT CCNTTCTCAAATGCTGNGANGACTGGAATNNTCCATAGANNANGTTTCTTTT TNTANNNAANTNATGAAN	303	PXYGDXXXGPXWKDHLMX RCKF*CXRSQGXPXLCXSX GWQW*XCCGPGRELLQG EAVXGCNTPTXTPSPFSNAX XTGXXHRXXFFFXXXXXE
Shigella ipaD	4	prey67572	104	TCCTTNNAGGATGNTGAAAGANGAATATATGCTGGGAGCATGNNGTATCT TTNTGGTAGCATNACGCCATGNCCTACTGTGCTTNNNCACTTNGTTNNN NGGACTACAACATGGAGGAANTNACCNNATCTACCCNTAGGCCTGCTCNT GGTCTCCTTGNATGATGATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT CTTGANTATGCTTANCCATACCAACACTGCTGCTGCTGCTGCTGCTGCTGCT ATCANATGCACGTATGTTNCTTGTGCTGCTGCTGCTGCTGCTGCTGCTGCT CCTGNATN	304	SFXDXEKXNICLGAXXIFXV AXRHLLVLXXLXXXGLQH GGXXPLXPXPAXGLLXVS CPRWXGAXAGPLXYASXIP TLVVCTRSQHXMHVCXLLY RRYXRASLX
Shigella ipaD	4	prey65696	104	TGCTGCTGCCACCAACCAACCACTGATAATGGTGTGGGTCTGAGGAAGA GAGCGTGGACCCCAATCAATACTACAAATCCGAGTCAAGCAATTCATCAG CTGAAGGTCAATGGGAAGACCCATACCCACACAAGTCCATGTAGACATCT CACTCACTGACTTATCCAAAATATAGTACCTGACGCTGGGATCACCT GACTGACATCACCTTAAAGTGGCAGGTAGGATCCATGCCAAAAGAGCTTCT GGGGAAAGCTCATCTTCTATGATCTTCGAGGAGAGGGGTGAAGTTGCAA GTCATGGCCAAATCCAGAAATTAATCAGAAAGAAATTTATCATATTAAT AACAAACTGCGTGGGAGACATAATTGGAGTTCAGGGGAATCCTGGTAAAA CCAAAGAGGTGAGCTGAGCATCATTCCTGATGAGATCACACTGCTGCTCC CTGTTGCATATGTTACCTCATCTTCACTTTGGGCTCAAAGACAAGGAACAA	305	AAATNHTDNGVGPPEESV DPNQYKIRSQAIHQKVN GEDPYPHKFHVDFISLDFIQ KYSHLQPGDHLTDITLKA GRIHAKRASGGKLIIFYDLR GEGVKLQVMANSRNYKSE EEFIHNNKLRRGDIQVQG NPGKTKKGELSIPYEITLS PCLHMLPHLHFLGKDKETR YRQRYLDLILNDFVRQKFII

Shigella ipaD	4	prey8889	105	GGTATGCCAGAGATACTTGGACTTGATCCTGAATGACTTTGTGAGGCAGAA ATTTATCATCCGCTCTAAGATCATCATATATAAGAGTTCTTAGATGAGCT GGGATTCTAGAGATTGAACTCCCATGATGAACATCATCCAGGGGAGC CGTGCCAAGCCTTTCATCATTATCACACGAGCTGGACATGAACCTATATA TGAGAAATGCTCCAGAACTCTATCATAAGATGCTTGTGTTGGTCATCGA CCGGTTTATGAAATGGACGCCAGTTCGGGAATGAGGGGATTGATTGACG CACAACTGAGTTACCCACCTGTGAGTTCTACATGGCCTATGCAGACTATC ACGATCTCATGGAATCACGGAGAAGATGTTTCAGGGATGTTGAAGCATAT TACAGGCAGTTACAAGGTACCTACCCACAGATGCCAGAGGGCCCAAGC CTACGATTTGACTTACCCACCTCCGGCGAATCAACATGTTAGAAGAG CTTGAGAAAGCCCTGGGATGAAGCTGCCAGAAACGAACCTCTTGAACCTG AAGAACTCGCAAAATCTTGATGATATCTGTGTGCAAAAGCTGTTGAATGC CCTCCACCTCGGACCAAGCCAGCTCTTGACAACTCTGTATCACCACAGATAAT CTGGAAGTGACTTGATCAATCACTACATCTGTATCACCACAGATAAT GAGCCCTTTGGTAAATGGCAGCTCTAAAGAGGCTGACTGAGCGCTTT GAGCTTTTGTCATGAAGAAAGAGATATGCAATGCGTATACATGAGCTGAATG ATCCATGCGGCAGCGGAGCTTTTGAAGAACAGGCCAAGGCCAAGGCTG CAGGTGATGATGAGGCCATGTTATAGATGAAACTTCTGACTGCCCTGGA ATATGGCTGCCCCACAGCTGGCTGGGCGATGGGCATGATCGAGTCGC CATGTTCTCAGGACTCCAACAACATCAAGGAAGTACTTCTGTTCTCTGCCA TGAACCCCGAAGACAAGAGGAGATGTAGCAACCACTGATACACTGGAAAG CACAAAGTTGGCACTTCTGCTAG	RSKIITYRSFLDELGFLEIET PMMNIIPGGAVAKPFITYHN ELDMNL YMRIAPELYHKML VVGIDRVVEIGRQFRNEGI DLTHNPEFTTCEFYMAYAD YHDLMEITEKMVSGMVKHI TGSYKVITYHPDGPGEQAY DVDFTPPFRINMVEELEK ALGMKLPETNLFETEETRKI LDDICVAKAVECPPTTA RLLDKLVGEFLEVTINPT CDHPQIMSPFLAKWHRSKE GLTERFELFVMMKEICNAYT ELNDPMRQRQLFEEQAKA KAAGDDEAMFIDENFCTAL EYGLPPTAGWGMGIDRVA MFLTDSNNIKEVLLFPAMKP EDKKENVATTDLESTTVG TSV*
			306	GCTCAAGCCGGAGTTTCATGCGGCGCCGCGGACAAAGTCTTCGACCCCTTCAC TGAGGTCACTCGTGGATGGCATCGTGCCAAATGCCCTGCGGGTCAAGGTGAT CTCAGGGCAGTTCTGTCCGACAGGAAGTGGGCATCTACGTGGAGGTGGA CATGTTGGCTCCCTGTTGATACGCGGCGCAAGTACCGACCCCGGACCTC TCAGGGGAACCTCGTTCAACCCCGTGTGGGACGAAGGCCCTTCGACTTCCC CAAGGTGGTGTGCTGCCACGCTGGCTTCACTTCGATTCGAGCTTTGAGGA GGGGGTAATTCGTAGGGCACCGGATCCTGCTGTCTGCTGCCATCCGCTC CGGATACCACTACGCTGCTGCGGAACGAGGCCAACCAACCGCTGTGCTC GCCGCCCTGCTCATCTACACCGAAGCCTCGGACTACATTCCTGACGACCA CCAGGACTATGCGGAGGCCCTGATCAACCCCATTAAGCACGTCAGCCTGAT GGACCAAGGGCCCGGAGTGGCCGCTCATTTGGGAGAGTGAGGCTC AGGCTGCCAAGAGACGTGCCAGACACCCAGTCTCAGCAGCTGGGGTCT CAGCCGTCCTCAACCCCAACCCCGAGCCACTGGATGCTCCCCCGCCGG CCCCCTGGCCCCACCACTCCCTGCCAGCACCTCCCTCAGCAGCCAGG GCAGCGTGATGATCTCATCGCCAGCATCCTCTCAGAGGTGCCCCCAACCC GCTGGATGAGCTCCGAGGTCAAGGCTCTGTTCAAGCTCCGAGCCGGC AAGAGCGAGACCTGCGGGAGCTGCGCAAGAGCATCAGCGGAAGGCAGTC	LKPEFMRRPDKSDFPTEV IVDGIVANALRVKVISGQFL SDRKVGIVVEVDMFGLPVD TRRYRTRTSQGNSTNPV WDEEPDFPKVVLPTLASL RIAFAEEGGKFVGHRLPVS AIRSGYHYVCLRNEANQPL CLPALLYTEASDYIPDDHQ DYAEALINPIKHVSLMDQRA RQLAALIGESEAAQAGQETC QDTQSQQLGSPSSNPTP SPLDASPRRPPGPTTSPAS TSLSSPGQRDDLIASILSEV APTPLDELGRGHKALVKLRS RQERDLRELKHKHQRKAV TLTRRLDGLAQAOAEGRC RLRPGALGGAADVEDTKE

Shigella ipaD	4	prey700	106	<p>ACCCTCACCCGCCCTGCTGGATGGCTGGCTCAGGCACAGGCTGAGGG CAGGTGCGGGCTGCGGCCAGGTGCCCTAGTGGGGCCGCTGATGTGGAGG ACACGAAGGAGGGGAGGACGAGGCAAGCGGTATCAGGAGTCCAGAAC AGACAGTGCAGAGCCTGCTGGAGCTGCGGGAGGCCAGGTGACGCGAGA GGCCAGCGAGGCTGGAACACCTGAGACAGGCTCTGACGCGGCTCAGGG AGGTGCTCTTGATGCAAAACAACTCAGTCAAGAGGCTGAAAGAGATGAA CGAGAGGAGAAAGAGGCTGCAAGAGATCCTGGACAGAAAGCGCCATAA CAGCATCTCGGAGGCCAAGATGAGGACAAGCATAGAAAGGAGGCGGAAC GACGGAGATTAAACGTCGGCAGCATCACTGAGTCAGTCAACTCCATCCGTCG GCTGGAGGAGGCCAGAGCAGCGGCATGACCGTCTTGCTGGCTGGGCAGC AGCAGTCTGCAACAGCTGGCAGAAAGAGGAGGCCAAGCTGCTGGCCAG CTGGCCAGGAGTGTACGAGCAGCGGGGAGGCTCCGCCAGGAGATCCG CCGAGCCTGCTGGCGAGATGCCGAGGGGCTGGGGACGGGCTCTG GTGGCTGTGCCAGCAACGGTCACGACCCGGGAGCAGCGGCGCACCTGTC GGCGCTGACTCGAGAGCCAGAGGAGAAACACGCGCTCTGA</p>	<p>GEDEAKRYQEFQNRQVQS LLELREAOVDAAEQRRLEH LRQALQRLREVLDANTTQ FKRLKEMNEREKELQKIL DRKRHSISEAKMRDKHKK EAELEINRRHITESVNSIR RLEEAQQRHRLVAGQQ QVLQQLAEEPKLLAQLAQ ECQEQRARLPQEIRRSLLG EMPEGLGDGPLVACASNG HAPGSSGHLSGADSESOB ENTQL*</p>
			307	<p>ATGGGAATTGGTCTTCTGCTCAAGGTGTAACATGAATAGACTACCAGGT GGGATAAGCATTCATATGGTTACCATGGGATGATGGACATTCGTTTGTCT TCTGGAACCTGGACAACCTTATGGACCACTTCACTACTGGTGATGTCATTG GCTGTTGTGTTAATCTTATCAACAATACCTGCTTTTACACCAAGAAATGGACAT AGTTTAGGTATTGCTTCACTGACCTACCGCAATTTGTATCCTACTGTGGG GCTTCAACACCCAGGAGAGTGTGCTGATGCCAATTTGGCAACATCCTTTC GTGTTTGATATAGAAGACTATATCGGGAGTGGAGAACCAAAATCCAGGCAC AGATAGATCGATTTCTATCGGAGATCGAGAAGGAGAAATGCGACACCATGAT ACAAAAATGGTTTCATCTATTAGTCCACCATGGTACTGTGCCACAGCAG AGGCTTTGCCAGATCTACAGACCAAGCCGTTCTAGAAGAAATTAGCTTCCAT TAAGAATAGACAAGAAATCAGAAATTTGGTATTAGCAGGAAGAAATGGGAGAA GCCATTGAACAACACACACAGTTATACCCAAGTTTACTTGAAGAAATCCTAA TCTCCTTTTACATTAAAGTGCCTCAGTTTATAGAATGGTGAATGGTACAG ATAGTGAAGTACGATGTTTGGGAGGCCGAAATCCAAAGTCTCAAGACAGTTA TCCTGTTAGTCTCGACCTTTTAGTCCAGTATGAGCCCCAGCCCATGGA ATGAATATCCACAATTTAGCATCAGGCAAGGAAGCAGCCGACATTTTTCAG GTTTTGAAAGTTGTAGTAATGGTGTATATCAATTAAGCACATCAATCATATT GCCATAGTAAATAACACCCAGTCACTCAACTGAATGATACCAGAACTAAACAGT ATAAATATGTCAAGATCACAGCAAGTTAATACTTACCAGTAATGATGTAGA CATGGAACACAGATCACTACTCCAATGGAGTTGGAGAACTTATCCAAATGGT TTCTTAATGGTAGTCTAAACATGACCACGAAATGGAAGATTGTGACACCG AAATGGAAGTTGATCAAGTCAGTTGAGACGCCAGTTGTGTGGAGGAAGTCA GGCCGCCATAGAAAGAAATGATCCACTTTGGACGAGAGCTGCAAGCAATGAG TGAACAGCTAAGGAGAGACTGTGGCAAGAACACTGCAAAACAAAAAATGTTG</p>	<p>MGIGLSAQGVNMNRLPGW DKHSYGYHGDDGHGSHFSS GTGQPYGPTFTTGDVIGCC VNLINNTCFYTKNGHSLGIA FTDLPNLYPTVGLQTPGE VVDANFGQHPFVFDIEDYM REWRTKIQAQIDRFPIGDR EGEWQTMQKMWSSYL VH HGYCATAEAFARSTDQTVL EELASIKNRQRIQKLVLAGR MGEAETTTQQLYPSLLERN PNLLFTLKVRQFIEMVNGT DSEVRCLGGRSPKSDSY PVSPRPFSSPSMSPSHGN NIHNLASGKGSTAHFSGFE SCSNGVISNKAHQSYCHSN KHQSSNLNPELNSINMSR SQQVNNFTSNDVDMETH YSNGVGETSSNGFLNGSS KHDHEMEDCDTEMEVDSS QLRRQLCGGSOAAIERMIH FGRELQAMSEQLRRDCGK NTANKKMLKDAFSLAYS PWNSPVGNDLPQIREPV</p>

Shigella ipaD	4	prey2694	107	AAGGATGCATTAGTCTACTAGCATATTAGATCCCTGGAACAGCCAGTTG GAAATCAGCTTGACCCGATTAGAGAGAACCTGTGTCTCAGCTCTTAACAG TGCAATATTAGAAACCCACAATCTGCCAAAGCAACCTCCACTTGCCCTAGCA ATGGACAGGCCACACAATGTCTAGGACTGATGGCTGATCAGGAATTGGA TCCTGCGCATTTGCCACAGTGAAGACTACCTACATTAG	308	MAHAMENSWTISKEYHIDE EVGFALPNPQENLPDFYND WMFIKHLPLDIESGQLRE RVEKLNMLSIDHLTDHKSQ RLARLVLCITMAYVWVKQ HGDVRKVLPRNIAVPYCC SKKLELPPILVYADCVLANW KKKDPNKLTYENMDVLF FRDGDCKSGFFLVLLVEIA AASAIKVIPTVFKAMQMQE RDTLLKALLEIASCLEKALQ VFHQIHDHVNPKAFFSVLRI YLSGWKGNPQLSDGLVE GFWEDPKEFAGGSAGQSS VFQCFDVLGIIQQTAGGGH AAQFLQDMRRYMPPAHRN FLCSLESNPSVREFVLSKG DAGLREAYDACVKALVSLR SYHLQIVTKYILIPASQQPKE NKTSEDPSKLEAKGTGGTD LMNFKTVRSTTEKSLLKE G*
Shigella ipaD	4	prey53735	108	GGGTGAACCCAGGAGTTCCCTTCGTGGATTACCAACAACTATGGTGGGACA GCCAAGGCCATTGCAGTGAACGTTACAGGAGATGGTTACCAAGTCAAAACCC AGCCAGAGGAGCTGGCCCTCTTGCTAACAGCTGACCCAGTGAATGGC CGTGTGCCCTCGGAGGCCAAGCCCTGCAGCGGTGGCTGCTGAAATGAAGA GATAGGTTCCCATATCAACACCCGGGTACAGGAGCTGGGCCATGGCTGTC CGCTCTGGTCAACAGGCGGCCCTGCAGTGCAGCCCCAGTGCCTA CACCAAGAAGGAGCTCATAGAGTGTGCCCGGAGAGTCTCTGAGAAGGTCTC CCAGTCTCGGCTGCGCTCCAGGCTGGGAATCGTGGCACCCAGGCCTGCAT CACAGCAGCCAGCGCTGTCTGGTATCATTTGCTGACCTCGACACCCACCATC ATGTCGCCCACTGCTGGCAGCGCTCAATCGTGAGGGTACTGAAACTTTCGCTG	309	GEPEGSFVDYQTTMVRTA KAIAVTVQEMVTKSNTSPE ELGPLANQLTSDYGRASE AKPAVAANEIEIGSHIKHR VQELGHGCAALVTKAGALQ CSPSDAYTKKELIECARRV SEKVSHVLAALQAGNRGT QACITAASAVSGIADLDTTI MFATAGTLNREGTETFADH REGILKTAKVLEDTKVLVQ

ipaC	5	prey67514	111	CACCTCTCCAGCTACTCACCCCACTTCCCTAGCTATTCGCCCACTTCCCT AGCTACTGCCAACGTCTCCAGCTACTCGCGACATCTCCAGCTACTCGC CAACTTCAACAGCTATCTCCCACTTCTCCAGCTACTCACCTACTCTCCA AGCTATTCAACCACTCCCCAGCTACTCACCACTTCCCAAGTTACTCAC CCACGAGCCGAATATTCTCAACCAAGTCCCAATTAACCCCAACATCAC CAGTACAGCCCGACATCACCCAGCTATTCCTACTAGTCCCACTACACA CCTACAGCCCTAACTACAGCCCACTCTCCAAGTACTCTCCAACATCAC CCAGTATTCCCGACCTCACCAAGTTACTCCCTTCCAGCCCAAGTTCG ACCACAGTCTCCAACCTATACCCCAAGTCAACCCCAAGTCCCTCTTATA CCAGCTACAGCCCACTCACCAAGTACACCCCAAGTCCCTCTTATA GTCCAGTCTCCAGAGTATACCCCACTCTCCCAAGTACTCACCTACCAG TCCCAATATTCAACCACTCTCCCAAGTACTCGCTACCAGTCCCACTATT CACCCACCAACCAATACTCCCAACATCTCTACTATTCCCAACCTCT CCAGTCTACACCCCACTCTCCCAAGTACTCACCTACTAGCCCACTTACT CGCCCACTTCCCAAGTACTCGCCCAAGTACTCGCCCACTACTCGCCCACT CCCCAAAGGCTCAACCTACTCTCCCACTTCCCTGTTACTCGCCCACT CCCCACCTACAGTCTCAACGCGCGGCTATCAGCCCGGATGACAGTGACGA GGAGAACTGA	PSYSPTSPSPSPSPSP TSPSPSPSPSPSPSP SPTSPSPSPSPSPSP SYSPSPSPSPSPSP SPNYPTSPSPSPSP PTSPNYPTSPSPSP YSPTSPSPSPSPSP PRYTQSPSPSPSP SSPSPTSPSPSPSP SPSSPEYPTSPSPSP KYSPTSPSPSPSP TPKYSPTSPSPSP PTSPKYSPTSPSPSP YSPTSPSPSPSP PTSPGYSPTSPSPSP SPDDSDSEN*
Shigella ipaC	5	prey2926	112	ATGCACAAGGAGGAACATGAGGTGGTGTGCTGGGGGCAACCCCAAGCAC CATCCTTCCAAGTCCACCGTGATCAACATCCACAGCGAGACCTCCGTGCC CGACCATGTGCTGGTCCCTGTTCAACACCCCTCTTCTTGAAGTGGTGTGT CTGGGCTTCATAGCATTCGCTACTCCGTGAAGTCTAGGGACAGGAAGATG GTTGGCGACGTGACCGGGGCGGAGGCTATGCCTCCACCGCAAGTGCCT GAACATCTGGGCTGATCTGGGCTATGCCTATGACCATGGATTGATCATCTG TCACATGTTATCGGCTCTGTGACAGTCTACCATATTATGTTACAGATAATACA GGAAAAACGGGGTTACTAG	MHKEEHEAVLGAAPPSTIL PRSTVINIHSETSVPDHVV WSLFNTLFLNWCCCLGFIAF AYSVKSRDRKMGVDVTGA QAYASTAKCLNIWALILGIL MTIGFILSLVFGSVTVVYHML QIIQKRGY*
Shigella ipaC	5	prey2926	112	ATGGAGAAAACTTGATAGATGCACCTCCTCTTACTATGAATCTTCAGAAAA GCAAGAGACTGTATGATATTTTGAAGTGGTGATTTTGAAGATCACTGGGA TTGAAATGCTCCAGTGTGTTATCTGTGTTTTTGAAGTGAACCCCA GAAGACCACTACTGCCCAGTGGTGCAAGTCTTGAGCTATTACAGAGCA GCCAAGAAGTCTGACATCATATCATAGCAATCCACAGAGCATATGATT TCTCACAGAAATTAAGTGAAGTCTCAATGGAATAATTTGGTAGACATGCA ACAACCTCAAAATCAATCAATATCCAGAACTAATGCAGAGTACCTTGCTCAT TTGGTCCAGGAGCCCGTGGTAAAGCATTTAACACCATCTCAGCCTGG GCTCTCCAGTCAGGAGCACTGGATGCAAGTCGGCAGGTGTTGTGTGGA AATGACAGCAAGCCCAAGCAAGAGTATGATGATTTGTTGTTGTTGTTGGA TTACTCCAATGGATCAAGGATCACATCATGCGAGCCAAAGAAATGAAAGTA CCCCCTGCAGCTATTTCCAATGTGAGGTTCCCTTCTATTGTTGTTGTTG CTGTGTGTTCTGTTTTCTATTGTTGTTAAGAGACGTAATCTACCCCTAT	MEKTCIDALPLTMNSSEKQ ETVCIFGTGDFGRSLGLKM LQCGSVVFGSRNPQKTT LPSGAELVSYSEAAKSDIII IAHREHYDFLTTEVLNG KILVDISNNLKNQYPSNA EYLHLVPGAHVVKAFNTIS AWALQSGALDASRQFVC GNDSKAKQRMVMDIVRNGL TPMDQGSMLAAKEIEKPL QLFPMWRFPFYLAVLCVF LFFYCVIRDVIYPVVEKDD NTERMAISIPNRIFITAPYT

Shigella ipaC	5	prey4458	113	GTTATGAAAAGAGATAATACATTCGTATGGCTATTTCCATTCCAAATCGT ATCTTTCCAAATACAGCACCTTACACTGCTTGGCTTTGTTTACCTCCCTGGTG TTATTGCTGCCATTCTACAACTGTACCGAGGCACAAAATACCGTGCATTCCCA GACTGGCTTGA		ACFGLPPWCYCCHSTTVP RHKIPSIPLA*
Shigella ipaC	5	prey4458	114	CCAGGAGCTCCAGGCCAGCCAGGCGGAGGCTGACCAGCAGCAGACTCGCC TCAAGGAGCTGGAGTCCAGGTGTCGGGTCTGGAGAGGAGGCCATCGAG CTCAGGAGGCGCTCGAGCAGCAGAAAGTGAAGAACATGACCTCCGGGA GAAGAACTGGAAGGCCATGGAGGCACCTGGCCACGCGCCGAGCAGCCTGCA AGGAGAACTGCACTCCCTGACCCAGGCCAAGGAGGAATCGGAGAAAGCAG CTCTGTCTGATTGAGGCGCAGACCATGGAGGCCCTGCTGGCTCTGCTCCCA GAACTCTGCTTGGC	314	QDVQASQAEADQQQTRLK ELESQVSGLEKEAIELREAV EQQVKNNDLREKNWKAM EALATAEQACKELHSLTQ AKEESEKQLCLIEAQTMEA LLALLPELSVL
Shigella ipaC	5	prey4458	115	GGCCGAGGAGCGCAGAGCACACTGCGAGGCCGAGTGTGACCAGTACCGCA GCATCTGGCGGAGACGGAGGCGCATGCTCAGAGACCTGCAGAGAGCGTG GAGGAGGAGGAGCGGTGTGGAGGCCAAGGTGGCGCCGAGAGGAGG AGCTCCAGAACTCCGGGTACAGTGAAGCATCTCGAAGAGATTGTAG GANGAATNCNNATGCCAAAAGGACAAAGGAGGTATTGGTNGCTTANGCTGG CTATGAATACNTCTTCTGTTGTGATANTCTATTTCTTACACCNCTNGGCAT GGTAGGCAANNCCACAGTANATGCCACATCTATGAGGCTGNNCGNCATA CTCGCCGTGTCTANCTACATCCTGTTANNNGTNGGCCCGNCGGTTCC TNCCGATTNTGTCNGNCCAGCCTGGTGTGACANCTCGGACCGCGNT NACTATNACCTCCTGGAGGACCTACCAAGAACGATGCTNACCCTGGTGGG GAGGCTGGAAGG	315	AEETQSTLQAECDQYRSIL AETEGMLRDLQKSVEEEE QVWRAKVGAEEEEELKSR VTVKHLEEV
Shigella ipaC	5	prey67522	116	CATGCTGCAGACCTTCTAATGAACCTATTGAACCTGCTGGAGAAATTGTC CTTGATAACTCTGATTCTAGTGAACACACAGGAATCTGCAAAACCTCTTATCCT CACTGCAATTAAAGGCTGACCGTACACGTGTTATGGAGTATATTAAACCGCCTG GATAATTATGATGCCCCAGATATTGCCAATATCGCCATCAGCAATGAGCTGTT TGAAGAAGCATTTGCCATTTCCGGAAATTTGATGTCATATTCAGCAGTTC AGGCTTAATTGAGCATATTGGAACCTGGATCGGCGCATATGAGTTTGCTGA ACGTTGCAATGAACCTGCGGTCTGAGTCAACTTGCAAAAGCCAGTTGCAG AAAGGAATGGTGAAGAAGCCATTGATCTTATATCAAGCAGATGATCCTTC CTCCTACATGGAAGTTGTTGAGGCTGCCAATAGTGGAACTGGGAAGAA CTGTTGAAGTACTTGCAGATGGCCCGTAAGAAGGCTCGAGAGTCTATGTG GAGACAGAAGCTGATTTCCACTGGCTGCTAAACAAACCGC	316	XEXXMPKGGGGIGLXWL* IXXSVCDXLFTPSGMVXG XHSXCHIYEAXAAYSPCLX TSXLXXARXVPDXVXXT AWCXTXRTAXTXTSWRTY HEXMLTLVGRLE
Shigella ipaC	5	prey527	117	TGCAGTCCAAGAGATCTCCCATCTCATTTGAGCGCGTGGCCAAATGCTGCCCG GGCTGAAGCCTCCAGCTGGGACACAAAGGTGCCAGATGGCGCAGTACTT TGAGCCGCTCACCTGGCTGAGTGGGTGCTGCTCCTCAAGACCTGAGCCA CCCCGAGCAGATGGCACTCCTGACCCAGACTAAACATTTGGCAGAGTCTGC CCTGCAGTTGCTATACACTGCCAAGGAGGCTGGTGGTAACCCAAAGCAAGC AGCTCACACCCAGGAAGCCCTGGAGGAGGCTGTGCAGATGATGACCGAGG	317	MTADLPNELIELLEKIVLDN SVFSEHRNLQNLLITAIKA DRTRVMEYINRLDNYDAPD IANIAISNELFEEFAIFRKF DVNTSAVQVLIHIGNLDRA YEFACRNEPAVWSQLAK AQLQKGMVKEAIDSYKAD DPSSYMEVVQAANTSGNW EELVKYLQMARKKARESIV ETELIFALAKTNR
Shigella ipaC	5	prey53735	118	AVQEISHLIEPLANAARAE SQLGHKVSQMAQFEPLTL AAVGAASKTSLHPQQMALL DQTKTLAESALQLLYTAKE AGGNPKQAAHTQEALAEA VQMMTEAVEDLTTLNEAA	318	

Shigella ipaC	5	prey53735	118	<p>CCGTAGAGGACCTGACAACAACCCCTCAACGAGGCGCAGCTGCTGCTGGG TCGTGGTGGCATGGTGGACTCCATCACCCAGGCCATCAACCAGCTAGATG AAGACCAATGGTGAACCAAGGTTCTTCGTGGATTACCAACAACATAT GGTGGGACAGCAAGGCCATTGCAGTGACCGTTCAGGAGATGTTACCAA GTCAAACACAGCCAGAGGAGCTGGCCCTCTTGTCAACCAGCTGACCCAG TGACTATGGCCGTCTGGCTCGGAGGCCAAGCCTGCAGCGGTGGCTGCTG AAATGAAGAGATAGTTCCCATATCAACACCGGGTACAGGAGCTGGGCC ATGGCTGTGCCGCTCTGTGTCACCAAGGAGCTCATAGAGTGTGCCCGAGAGTCTCT AGTGATGCCTACACCAAGAAAGAGCTCATAGAGTGTGCCCGAGAGTCTCT GAGAAGGTCTCCACGCTCGCTGGCTGGCTCCAGGCTGGGAATCGTGGCACC CAGGCTGCTACAGCAGCCAGCGCTGTGTCTGGTATCATTTGCTGACCTC GACACCACCATCATGTTGCCACTGCTGGACGCTCAATCGTAGGGTACT GAACTTTGCTGACCAACCGGAGGCGATCCTGAAGACTGCGAAGGTGCTG GTGGAGGACACCAAGTCTGTGTGCAAAACGACGCTGGAGCCAGGAGAA GTTGGCGAGGCTGCCAGTCTCTCGTGGCGACCATCACCCGCTCGCTGA TGTGTTCAAGCTGGTGACCCAGCCTGGGAGCTGAGGACCTTGAGACCC AGGTGTTACTAATCAACGAGTGAAGATGTAGCCAAAGCCCTGGAGACC TCATCAGTGCAACGAAGCTGCAGCTGGCAAGTTGGAGATGACCCCTGCTG TGTGGCAGCTAAAGAACTCTGCCAAGGTGATGGTGACCAATGTGACATCAT GCTTAAGACAGTAAAGCCGTGGAAGATGAGGCCACCAAGGCACTCGGGC CCTGGAGGCAACCAAGAACATACGGCAGGAGCTGGCGGTTTTCTGTTTC CCCAGAGCCACTGCCAAGACCTCTACCCAGAGACTTCAATCCGAATGAC CAAGGTTATCACCATTGCAACCGCCCAAGCCGTTGCTGCTGGCAATTCCTG TCGCCAGGAAGATGTATTGCCACAGCCAATCTGAGCCGCGTGCTATTGC AGATATGCTTCGGGCTTGCAAGGAAGCAGCTTACCAACCCAGAAAGTGCCCC TGATGTGGGCTTCGAGCCCTGCACTATGGCCGGGAGTGTGCCAATGGCTA CCTGGAACGTGCTGGAC</p>	319	<p>SAAGVVGMMVDSITQAINQ LDEGPMGEPEGSFVDYQT TMVRTAKIAVTVQEMVTK SNTSPEELPLANQLTSDY GRLASEAKPAVAANEEL GSHIKHRVQELGHGCAALV TKAGALQCSPSDAYTKELI ECARRVSEKVSHVLAALQA GNRGTOACITAASAVSGIIA DLDTIMFATAGTLNREGT ETFADHREGILKTAKVLVE TKVLVQNAAGSQEKLAQAA QSSVATITRLADVVKLGAAS LGAEDPETQVLINAVKDV AKALGDLISATKAAAGKVG DDPAVWQLKNSAKVMVTN VTSLLKTVAVEDEATKGT RALEATTEHIRQELAVFCSP EPPAKTSTPEDFIRMTKGIT MATAKAVAAGNSCRQEDVI ATANLSRRAIADMLRACKE AAYHPEVAPDVRLRALHYG RECANGYLELDD</p>
				<p>CCGTAGAGGACCTGACAACAACCCCTCAACGAGGCGCAGCTGCTGCTGGG TCGTGGTGGCATGGTGGACTCCATCACCCAGGCCATCAACCAGCTAGATG AAGACCAATGGTGAACCAAGGTTCTTCGTGGATTACCAACAACATAT GGTGGGACAGCAAGGCCATTGCAGTGACCGTTCAGGAGATGTTACCAA GTCAAACACAGCCAGAGGAGCTGGCCCTCTTGTCAACCAGCTGACCCAG TGACTATGGCCGTCTGGCTCGGAGGCCAAGCCTGCAGCGGTGGCTGCTG AAATGAAGAGATAGTTCCCATATCAACACCGGGTACAGGAGCTGGGCC ATGGCTGTGCCGCTCTGTGTCACCAAGGAGCTCATAGAGTGTGCCCGAGAGTCTCT AGTGATGCCTACACCAAGAAAGAGCTCATAGAGTGTGCCCGAGAGTCTCT GAGAAGGTCTCCACGCTCGCTGGCTGGCTCCAGGCTGGGAATCGTGGCACC CAGGCTGCTACAGCAGCCAGCGCTGTGTCTGGTATCATTTGCTGACCTC GACACCACCATCATGTTGCCACTGCTGGACGCTCAATCGTAGGGTACT GAACTTTGCTGACCAACCGGAGGCGATCCTGAAGACTGCGAAGGTGCTG GTGGAGGACACCAAGTCTGTGTGCAAAACGACGCTGGAGCCAGGAGAA GTTGGCGAGGCTGCCAGTCTCTCGTGGCGACCATCACCCGCTCGCTGA TGTGTTCAAGCTGGTGACCCAGCCTGGGAGCTGAGGACCTTGAGACCC AGGTGTTACTAATCAACGAGTGAAGATGTAGCCAAAGCCCTGGAGACC TCATCAGTGCAACGAAGCTGCAGCTGGCAAGTTGGAGATGACCCCTGCTG TGTGGCAGCTAAAGAACTCTGCCAAGGTGATGGTGACCAATGTGACATCAT GCTTAAGACAGTAAAGCCGTGGAAGATGAGGCCACCAAGGCACTCGGGC CCTGGAGGCAACCAAGAACATACGGCAGGAGCTGGCGGTTTTCTGTTTC CCCAGAGCCACTGCCAAGACCTCTACCCAGAGACTTCAATCCGAATGAC CAAGGTTATCACCATTGCAACCGCCCAAGCCGTTGCTGCTGGCAATTCCTG TCGCCAGGAAGATGTATTGCCACAGCCAATCTGAGCCGCGTGCTATTGC AGATATGCTTCGGGCTTGCAAGGAAGCAGCTTACCAACCCAGAAAGTGCCCC TGATGTGGGCTTCGAGCCCTGCACTATGGCCGGGAGTGTGCCAATGGCTA CCTGGAACGTGCTGGAC</p>	319	<p>SDVLDKASSLIEEAKKAAG HPGDPESQQRLLAQVAKAV TQALNRCVSLPGQRDND NALRAVGDASKRLLSDSLP PSTGTGFEAQSRLENEAAG LNQAATELVQASRGTPQDL APASGRFGQDFSTFLEAGV EMAGQAPSQEDRAQVWSN LKGISMSSSKLLLAALKALST DPAAPNLKSQLAAAAARAVT DSINQLITMCTQQAPGQKE CDNALRELETVRELENPV</p>

Shigella ipaC	5	prey67546	119	CCAGAAAGGAGTGTGATAACGCCCTCGGGGAATTGGAGAGCGGTCCGGGAACCT CCTGGAGAACCCAGTCCAGCCCATCAATGACATGTCCTACTTTGGTTGCTG GACAGTGAATGGAGAACTCAAAGGTGCTGGCGAGGCCATGACTGGCATC TCCCAAATGCCAAGAACGGAACCTGCCAGAGTTGGAGATGCCATTTCCA CAGCCTCAAAGGCACCTTGTTGGCTTACCGAGGCAGCTGCACAGGCTGCAT ATCTGGTTGGTCTCTGACCCCAATAGCCAAGCTGGACAGCAAGGGCTAG TGGAGCCACACAGTTTGCCCGTGCAACCCAGGCAATTCAGATGGCCTGCC AGAGTTTGGAGAGCCTGGCTGACCCAGGCCAGGTGCTCTCTGCAGCCA CCATTGGCTAAACACACCTCTGCACGTGTGAACAGCTGTGCGCTGGCTTC TGCCGTACCAACCAATCCTACTGCCAAGGCCAGTTGTACAGTCAGCCAAAG GAGGTGCCCAACAGCACAGCTAATCTTGTCAAGACCATCAAGGCGCTAGAT GGGGCTTCACAGAGGAGAACCGTGCCAGTCCGAGCAGCAACAGCCCC TCTGCTGGAGGCTGTGGACAATCTGAGTGCCTTTGCTCCAACCCCTGAGTTC TCCAGCATCTGCCCCAGATCAGCCCTGAGGGTGGGCTGCCATGGAGCCC ATTGTATCTCTGCCAAGACAATGTTAGAGAGTGCCGGGGGAGCTCATCCAGA CAGCCCGGCCCTCGAGTCAATCCCCGGGAC	320	QINDMSYFGCLDSVMENS KVLGEAMTGISQNAKGNL PEFGDAISTASKALCGFTEA AAQAYLVGVSDPNSQAG QQGLVEPTQFARANQAIQ MACQSLGEPGCTQAQVLS AATIVAKHTSALCNSCRLAS ARTTNPTAKRQFVQSAKEV ANSTANLVKTIKALDGAFT ENRAQCRAATAPLLEAVDN LSAFASNPEFSSIPAQISPE GRAAMEPIVISAKTMLESA GGLIQTARALAVNPRD
Shigella ipaC	5	prey4671	120	CCTGGAGAGTCTCATCCAGAGAGTATCCAGCTGGAGGCCAGCTCCCAAA AAATGGACTAGAAGAGAGCTGGCTGAGGAGCTGAGATCAGCTCGTGGCC TGGAATATGATTCCTGATTCCAGGATCAGGCCCGGAACTGCTTACCTA CGGCAAAAATACGAGAAGGGAGAGGTATTTGTTATCTTATCACCCGGCATG CAAAAGATACAGTAAATCTTTGAGGATCTCTAAGGAGCAATGACATTGAC TACTACCTGGGACAGAGCTTCGGGAGCAACTCGCCAGGGAAGCCAGCTG ACAGAGAGGCTCACAGCAAACTCAGCAACCAAGGATCAATAAGTGAGAAA GATCAAGCTGGACTTGAGCCACTGGCCCTCAGGCTCAGCAGGGAGCTGCAG GAGAAGGAGAAAGTGATTGAAGTCTGTCAGGCCAAGCTGGATGCTCGGTCC CTCACACCTCCAGCAGCCATGCCCTGTGCTGACTCCACCCGCTCTCCAGCA GCACCTCTTCTGCTGATGAAGTGAAGCAAGCAAGCTTCTCCAGTCACTCAGAT CAGCGAGTACACACATATGAAGAGAAAGCAAGCTTCTCCAGTCACTCAAC TCCATCCATCATTCGAGTCACTTGTGTTGTTCTTAAACCATCATCAAC CAGTGCATCTCAGGGGCTAAGGCCGAATCCAACAGCAACCCCATCAGCTT GCCAACTCCCCAGAAATACCCCCAAGGAGGCCAACCCAGGCCCATTCAGGCTT TCATTTCACTCCATACCCAAGCTGGTAGCCTTCTCAGGCACCATTTGCC TCAGCTCCATCCAGCTTCTGCTTTCAGCCCCCACTGGCCCTCTCTCCTCTTG GCTGCTGTGAGACACAGTGGTCTCTTGGCTGAGGCTCAGCAGGAGCTAC AGATGCTGCAGAGCAGTTGGGAGAAAGTGCCAGCACTGTTCTCCTGCTT CCACAGCTACATTGCTGAGCAACGACTTGGAGGCCGACTTCTTCTACTACCT	321	LESLIQRVSQLEAQLPKNGL EEKLAEELRSASWPGKYDS LIQDQARELSYLRQKIREGR GICYLITRHAKTIVKSFEDL LRSNDIDYLGQSFREQLA QGSQTLERLTKLSTKDHK SEKQAGLEPLALRLSREL QEKEKVEVLQAKLDARSLT PSSSHALSDSHRSPSSTSF LSDELEACSDMDIVSEYTH YEEKKASPSHSDSIHSSH SAVLSSKPSSTSASQGA ESNSNPISLPTPQNTPEA NQAHSGFHFHSIPKLASLP QAPLPSAPSSFLPFSPTGP LLLGCCETPVWSLAEAAQOE LQMLQKQLGESASTVPPAS TATLLSNDLEADSSYYLNS AQHSPPRGTIELGRILEPG YLGSSGKWDVMPQKGSV

					CAACTCTGCCAGCCTCACTCTCTCTCAAGGGGCCACCATAGAACTGGGAAG AATCCTAGAGCCTGGGTACCTGGGCAGAGTGGCAAGTGGGATGTGATGAG GCCTCAGAAAGGAGTGTATCTGGGACCTATCCTCAGGCTCCTCTGTGTA CCAGCTTAACCTCAAAACCCACAGGGCTGACCTGCTGGAAGAGCATCTTGG TGAATCCGGAACCTGCGCCAGCGCTGGAGGAGTCCATCTGCATCAATGA CCGCTACGGGAGCAACTGGAACACCGGC			SGDLSSGSSVYQLNSKPTG ADLEEHLGEIRNLQRLEE SICINDRLREQLHR
Shigella ipaC	5	prey67550	121		ATGCTTACAGAGCTTCTCTTTGAATTACATGTGCGGGCCACACCTGACAAAC TCAATAAGCCCATGAAGAGGGCTCATGACTGGGTGGAAGAGGATCAAAACCG TGGTGTCAGTAGATGTGCAAAAGTGTCCGAAGAAGAAACAAAGGAAGGAAAG AAAAGGAAGAGAAATCTCAAGACCCCTCAAGAAGACAAAAGGAGGAAAAGAA AACTAAGACCATAGAGGAAGTATACATGTCTCCATTGAAAGTCTGGCGGAG GTAACAGCGCGCTGATTGAGCAGCTTCATAAAGTAGCAGAAATTAATCTTCA TGGACAAGAAGAGGAAAACCCAGCTCAGGACCAAGCAAAAGTTCTAAATAAA TTAACTACTGCAATGTGCAATGAAGTGGCCTCTTTATCAAGAAGTTTACGAA TTCTTTAACCACCTGTTGGGAGCAACAAGAGGCCGAGGTCTTAACCCCATG ATCAGTAGTGATTGTAGAGGGCTGCA			MLTELFELHVAATPDKLNK AMKRAHDWVEEDQTVSV DVAKVSEETKKEEKEES QDPQEDKKEEKTIEEV YMSSIESLAETARCIEQLH KVAELILHGQEEKPAQDQ AKVLKLTAMCNEVASLSK KFTNSLTTVGSNKKAEVLN PMISSVLLEG
Shigella ipaC	5	prey8889	122		GTTCCAGAACAGAGGTGCAGAGCCTGCTGGAGCTGCGGGAGGCCCCAGG TGGACGCAGAGGCCAGCGGAGGCTGGAACACCTGAGACAGGCTCTGCAG CGGCTCAGGGAGGTGCTCCTTGATGCAAAACACAACTCAGTTCAAGAGGCTG AAAGAGATGAACGAGAGGGAAGAAGGAGCTGCAGAAATCCTTGACAGA AAGCGCCATAACAGCATCTCGGAGGCCAAGATGAGGGACAAGCATAAGAAG GAGGCGAACTGACGGAGATTAAACCGTCGGCACATCACTGAGTCAGTCAAC TCCATCCGTCGGCTGGAGGAGGCCAGAGCAGCGGCATGACCGTCTTG GCTGGCAGCAGCAGGTCCTGCAACAGCTGGCAGAAAGAGGAGCCCAAGCT GCTGGCCACAGCTGGCCAGGAGTGTACAGGAGCAGCGGGCGAGGCTCCCC AGGAGATCCGCCGAGCCTGCTGGCGAGATGCCGAGGGGCTGGGGGA CGGGCCTCTGTGGCCTGTGCCAGCAACGGTCACGCACCCCGGAGCAGCG GGCACCTGTGCGGGCGCTGACTCGGAGAGCCAGGAGGAGAACACGCGAGCTC TGA			FQNRQVQSLELREAAQVDA EAQRRLEHLRQALQRLREV VLDANTTQFKRLKEMNERE KKELQKILDRKRHNSISEAK MRDKHKEAELTEINRRHIT ESVNSIRLEEAAQQRHHR LVAGQQVLQQLAEFEPKL LAQLAQECQEQRARLPQEI RRSLGEMPEGLDGPLV ACASNGHAPGSSGHLSGA DSESQEENTQL*
Shigella ipaC	5	prey11375	123		CTCCTCGGCTGGGGCTCGGGCAATCCCGGGCCCCACGCAACCTCCAAG GCTTGCTGCAGATGCCATCACCGCGGGCTCTGAAGAGCCAGACCCCTCCTC CAGAACCGATGAGTGAGGAGAGCGCTCAGTGGCTGCAGGAGGCCATGTCTC GCTGCCCTCCGAGGCCAGCGGAGGAGGTGGAGCAGATGAAGAGCTGCCT CCGAGTGTGTACAGCCCATGCCCCCACTGCTGGGAGGCGCGAGCAGG CGCCGACCAGCAAGAGCGAGAGGGGGCCCTGGAGCTGCTGGCCGACCTG TGTGAGAACATGGACAAATGCCGCAGACTTCTGCCAGCTGTCTGGCATGCAC CTGCTGGTGGCCGTTACCTGGAGGCGGGGGCTGCGGGACTGCGGTGGC GGCGGCACAGCTCATCGGACGTGCAGTCAAGAACGTGGCAGCCATCCAG GAGCAGGTGCTGGGCGCTGGGTGCCCTGCGTAAGCTGCTGCGGGCTGCTGGA			SSAGSGNSRPPRNQGL LQMAITAGSEEDPPPEPM SEERRQWLQEAMSAAFRG QREEVEQMKSLRVLSP MPPTAGEAEQAADQERE GALELLADLCENMDNAADF CQLSGMHLLVGRYLEAGA AGLRWRAAQLIGTCSQNV AIQEQVLGLGALRKLRLD RDACDTRVRKALFAISCLV

Shigella ipaC	5	prey67473	124	CCGGACGCTCGACACGGTGGCGTCAAGGCCCTCTCGCCATCTCCTG TCTGGTCCGAGAGCAGGAGGCTGGCTGCTGCAGTTCCTCCGCTGGACG GCTTCTGTGTGATGAGGCCCATGCAGCAGCAGGTGCAGAACTCAAGG TCAAATCAGCATTCCTGCTGCAGAACCTGCTGGTGGCCACCCCTGAACAA AGGACCC		REQEAGLLQLRLDGFV MRAMQQVQKLKVKSAFL LQNLVGHPEHKG
Shigella ipaC	5	prey67473	124	ATGGCAGAGAAGGTGCTGGTAACAGGTGGGGCTGGCTACATTGGCAGCCAC ACGGTCTGGAGCTGCTGGAGGCTGGCTACTTGCCTGTGGTTCATCGATAAC TTCCATAATGCCTTCCGTGGAGGGGCTCCCTGCCTGAGAGCCTGCGGCGG GTCCAGGAGCTGACAGGCCCTCTGTGGAGTTTGGAGAGATGGACATTTTG GACCAGGAGGCTACAGCGTCTCTCAAAAAGTACAGCTTTATGGCGTCA TCCACTTTGGGGCTCAAGGCCGTGGCGAGTGGTGCAGAACCTCTG GATTATTACAGAGTTAACTGACCGGGACCATCCAGCTTCTGGAGATCATGA AGGCCACGGGGTGAAGAACCTGGTGTTCAGCAGCTCAGCCACTGTGTACG GGAACCCACGTAACCTGCCCTGATGAGGCCCA		MAEKVLVTGGAGYGSHTV LELEAGYLPVIDNFHNAF RGGSLPESLRRVQELTG RSVEFEEMDILDQALQRL FKKYSFMAVHFAGLKA ESVQKPLDYRVNLTGTQ LLEIMKAHGVKNLVFSSAT VYGNPQYLPDEA
Shigella ipaC	5	prey8929	125	AAAAGTGGTCAACGGTGGTAGAGAGAGGAAGATCTTTGGATGATGCAAGG AAGAGAGCCAAAGCAGTTCATGAAGCTTGAGTAACTTATGGAGTGGCTAG AAGAGTCAGAAAAGTCTTTGGATTCTGAACCTGGAATCGCAAATGATCCAGA CAAAATAAAACACAACCTTGACACACCAACAGGAGTTTCAGAAATCACTCGGAG CCAAGCATCTGTCTAGACACCAACCAACAGGACTGGACGTTCTCTGAAGGA GAAACCTCCCTGGCTGATGACAACTGAACTGGATGACATGCTGAGTGAA CTCAGAGACAAATGGGATACCATATGTGAAAATCTGTGGAAGACAAACA AATTGGAGGAAGCCCTGTTATTTCTGGACAATTCACAGATGCCCTACAGGC TCTCATTGATTGGTTATAGAGTTGAACCCAGCTGGCAGAGAACCCAGCT GTTCTGAGACATTGATTGGTGTGATGAATCTGATCGATAATCACAAGGCCT CCAAAAGAGTTGGGAAGAGGACCAAGCAGTGTGAGGCCCTGAAGCGCTC AGCCGAGAACTCATAGAAGGAGCTGGGATGACTCCTCCTGGTCAAGGT CCAGATGAGGAATTAAGCACACGCTGGGAGACCGTGTGCACTTTCTATA TCAAAGCAACACGTTAGAACGAGCCCTGCGTCAGGAGGAAATTCAC TCGGTGTACATGCCCTCTGGAGTGGCTGGCTGAGGCGGAGCAACCCCTG CGTTTCCATGGTCTCTCCAGATGATGAGGATGCTCTCCGGACTCTCATTTG ATCAGCATAAAGAA		KVVQRLVERGRSLDARK RAKQFHEAWSKLEWLEE SEKSLDSELEIANDPKIT QLAQHKEFKSLGAKHSV DTTNRTRSLKEKTSADD NLKDDMLSELDRKWDIC GKSVERQNKLEALLFSGQ FTDALQALIDWLYRVEPQL AEDQPVHGDIDLVMNLIDN HKAFQKELKRTSSVQALK RSARELIEGSRDDSSWVKV QMQLSTRWETVCALESISK QTRLEAALRQAEFFHSVH ALLEWLAEAEQTLRFHGV PDEDALRTLIDQHK
Shigella ipaC	5	prey3488	126	GCTGACTCATACCGAAGAGTTGTTAGATGCTCAGAGACCAATAAGTGGAGAC CCAAAAGTCAATGAAGTTGAGCTCGCAAGCACCATGTCTTAAAAATGATG TTTTGGCTCATCAAGCCACAGTGAACAGTCAACAAGCTGGCAATGAGCT TCTTGAATCCAGTCTGGAGATGATGCCAGCAGCTTAAGGAGCCGTTGGAA GCCATGAACCAATGCTGGGAGTCAAGTACAGAAAACAGAGAGGAGGGAG CAGCAGCTTCAGTCAACTCTGCAGAGGCCCGGCTCCACAGTGAAT GAAGATTTCTCTTGGAACTTACTAGAATGGAGGCCAGCTTCTGCATCTAA GCCCACAGGAGGACTTCTGAACTGCTAGGGAACAGCTTGATACATATG		LHTEELLDAQRPISGDPKV IEVELAKHVLKNDVLAHQ ATVETVKNAGNELLESSAG DDASSLRSLRLEAMNQWE SVLQTEEREQQLQSTLQQ AQGFHSEIEDFLELTRME SQLSASKPTGGLPETAREQ LDTHMELYSQLKAKEETYN

				<p>GAACCTCTATTCCCAGCTGAAAGCCCAAGGAGAGACTTATAATCAACTACTTGA CAAGGGCAGACTCATGCTTCTAAGCCGTGACGACTCTGGTCTGGCTCCAA GACAGAACAGAGTGTAGCATTTTGGAGCAGAAGTGGCATGTGTCAGCAG TAAGATGGAAGAAAGTCAAGCTGGAAGAGGCCCTCAACTGGCAACA GAAATCCAGAAATCCCTACAAGATTTATCAACTGGCTCACTCTAGCAGAGCA GAGTTAAACATCGCTTCTCCACCAAGCCTGATTCTAAATACTGTCTTTCCC AGATAGAAGAGCACAAGGTTTTTGCTAATGAAGTAAATGCTCATCGAGACCA GATCATTGAGCTGGATCAAACTGGGAATCAATTAAGTTCCCTTAGCCAAAAG CAGGATGTTGTTCTGATCAAGAAATTTGTTGGTGAGCGTGCACTGTCGATGGG AGAAGTTGTCCAGCGATCTATTGAAGAGGGCGATCACTAGATGATGCCAG GAAGCGGGCAAAACAATTCATGAAGCTTGGAAAAAACTGATTGACTGGCTA GAAGATGCAGAGAGTCACCTGGACTCAGAACTAGAGATATCCAATGACCCAG ACAAAATAAATTCAGCTTTCTAAGCATAAGGAGTTTCAGAAGACTCTTGGT GGCAAGCAGCCTGTGTATGATACCAACAATTAGAACTGGCAGAGCACTGAAAG AAAAGACTTTGCTTCCGAAGATACTCAGAAACTTGACAAATTTCTAGGAGAA GTCAGAGACAAATGGGATACTGTTGTGGCAAGTCTGTGGAGCGGCAGCAC AAGTTGGAGGAAGCCCTGCTCTTTTCGGGTCAAGTTCATGGATGCTTTGCAGG CATTGTTGACTGGTTATACAAGGTGGAGCCACAGCTGGCTGAGGACCCAGC CCGTGCACGGGACCTTGACCTCGTCATGAACCTCATGGATGCACACAAGG TTTTCCAGAAAGAACTGGGAAAGCGAACAGGAACCGTTCAGGTCTCTGAAGC GGTCAGGCCGAGAGCTGATTGAGAATAGTCGAGATGACACCACTTGGGTAA AAGGACAGCTCCAGGAACCTGAGCACTCGCTGGGACACTGTCTGTAAACTCT CTGTTTCCAAACAAGCCGGCTTGAGCAGGCCCTTAAACAAGCGGAAGTGTT TCGAGACACAGTCCACATGCTGTTGGAGTGGCTTTCTGAAGCAGAGCAAAC GCTTCGCTTTCGGGGAGCACTTCTCTGATGACACAGAGGCCCTGCAGTCTCT CATTGACACCC</p>	
Shigella ipaC	5	prey3514	127	<p>GGAAAAAGAAAGCTGCCACGTGCCGTGGGTACCCAGACATTGAGTGGTGC TGGTCTCCTCAAGATGTTCAACAAGCCACAGATGCCGTGACGAAAATGACC ATCAAGATGAATGAATCAGACATTTGGTTGAGGAGAAGCTCCAGGAGGTAG AGTGTGAGGAGCAGCGCTTACGGAAACTGCATGCTGTTGTAGAAACTCTAGT CAACCATAGGAAGAGCTAGCGTGAACACAGCCCAAGTTTGCAAAGAGTCTA GCCATGCTTGGGAGCTCTGAGGACAACACGGCATTGTCAACGGGCACTCTCC CAGCTGGCTGAGGTGGAAGAAAAAATTGAGCAGCTCCACCAGGAACAGGCC AACAAATGACTTCTTCTCCTTGTCTGAGCTCCTGAGTGACTACATTCGCCCTCT GGCCATAGTCCGCGCTGCCTTCGACCAGCGCATGAAGACATGGCAGCGCTG GCAGGATGCCAAGCCACACTGCAGAAGAAGCGGGAGGCCGAGGCTCGGC TGCTGTGGGCCAACACGCTGATAAGCTGCAGCAGGCCAACGAGCAGATCC TCGAGTGGGAGTCTCGGGTGACTCAATATGAAGGGACTTCGAGAGGATTT CAACAGTGGTCCGAAAAGAAGTGATACGGTTTGAGAAAAGAGAAATCCAAAGGA</p>	<p>QLLDKGRLMLSRDDSGS GSKTEQSVALLEQKWHV SSKMEERKSKLEALNAT EFQNSLQEFINWLTAEQS LNIASPPSLINTVLSQIEEH KVFANEVNAHRDQIIELDQT GNQLKFLSQKQDVVLKNNL VSVQSRWEKVVQRSIERG RSLDDARKRAKQFHEAWK KLIDWLEDAESHLDSLEIS NDPDKIKLQLSKHKEFQKTL GGKQPVYDTRTIRGRALKE KTLIPEDTQKLDNFLGEVR DKWDTVCGKSVERQHLE EALLFSGQFMDALQALVD WLYKVEPQLAEDQPVHGD LDVMNLMDAHKVFQKELG KRTGTQVQLKRSGRELIEN SRDDTTWVKQLQELSTR WDTVCKLSVSKQSRLEQAL KQAEVFRDTHMLLEWLSE AEQTLRFRGALPDDTEALQ SLIDT</p> <p>EKEELPRAVGTQTLGAGL LKMFNKATDAVSKMTIKMN ESDIWFEEKLQVEVECEEQR LRKLHAVVETLVNHRKELA LNTAQFAKSLAMLGSSEDN TALSRAISQLAEVEEKIEQL HQEQANNDFFLLAELLSDYI RLLAIVRAAFDQRMKTWQR WQDAQATLQKKREAEARL LWANKPKLQQAQDEILEW ESRVTQYERDFERISTVVR KEVIRFEKEKSKDFKNHVIK YETLIYSQOOI AKWWEAF</p>

					CTTCAAGAACCCAGCTGATCAAGTACCTTGAGACACTCCTTTACTCACAGCAG CAGCTGGCAAAAGTACTGGGAAGCCTTCCTTCCTGAGGCAAAAGGCCATCTCC TAA		LPEAKAIS*		
Shigella ipaC	5	prey5814	128		TGATGCCCCACCACAGCTTGAAGATGAGGAACCTGCATTTCCACATACTGAC TTGGCCAAAGTTGGATGACATGATCAACAGGCCTCGATGGGTGTTCCAGTTT TGCCGAAAGGGGAATTAGAAGTCTTTTAGAAGCTGCTATTGATCTTAGTAAA AAGGCCCTTGATGTTAAAGTGAAGCATGTCAGCGATTTTCCGTGATGGGC TAACAATATCATTCACTAAATCTTACAGATGAAGCAGTGAAGTGGCTGGAAG TTTGAAATTCATAGGTGCTGGTGGAGCTATGTGTGGCCAAAGTTGTCCCAAG ACTGGTTCCACTTTTAGAACTTCTTGCCATGGCCTTAAATCCTCATTTGCAAA TTCCATATCTACAATGGTACACGTCCATGTGAATCAGTTTCTCAAGTGTTC GTTGCCCTGAAGATGAACCTTTTGTCTGTTCTCCAGATCCTCGATCACCAAAG GGTTGGCTAGTGGATCTTCTCAACAAATTTGGCACCTTAAATGGTTCAGAT TTTGCATGATCGTTTTATTAAATGGATCAGCATTAACGTTCAAATAATTGCAGC CCTTATTAAACCATTTGGCAATGCTATGAGTTTCTCACCTTCTCATACAGTGA AAAAGTACTTTCTCCAATAATAGAAATGGTCCACAGTTTTAGAAAACTTAA CTGATGAAGAACTGAAAAAGAAAGCAAGAAATGAAGCCAAATGATGCTCT TTCAATGATTATTAAATCTTTGAAGAAATTTAGCTTCAAGGGTTCAGGACAAG AAGAAACTGTTAAAACTTAGAAATATTAGGTTAAAAATGATCTAGATTAT TGCAATTTCTTCTTCAATGGAAGATGAATGCATGAATGAAGTTAATAAG GTGATATCTAGTGATACATATCTCATCGACATGGTAATCTGAGGAGGA AGAGTGGCTCACAGCTGAACGAATGGCAGAATGGATACAGCAGCAACAATATC TTATCCATAGTGTGCGAGATAGTCTTATCAGCCACAGTATGTAGAAAAGTT AGAGAAGATCTTCGTTTTGTATCAAGAAAAAGCTCTGACCTTACAGGATC TTGATAATATCTGGGCAGCACAGCGAGGAAACATGAAGCCATTGTGAAGAA TGACATGATCTCTGGCAAAATGGCATGGGATTTTCTCTGAACAACTTG ATCATCCTTTTGATGTTTTAAGGCCAGTCGGACAATGCGAGTAAAAAGCAA CGTGAAAAGCTACTTGAGCTGATACGTGCTTGTGGAATCTGGCTCACAGTGA GTGTGATGGCACACAGAGTGTGAACCTTCTGTGGAATCTGGCTCACAGTGA TGATGTGCTGTAGATATCATGGACCTGGCTCTCAGTGCCACACATAAAAATA CTAGATTACAGTTGCTCCAGGACCGTGATACACAAAGATCCAAATGGATAG ATCGCTTTATAGAAGAACTTCGCACAAATGACAAATGGGTTATCCCGCACTG AAACAAATTAGAGAAATTTGTAGTTTGTGGAAGCGCCTCAAAATTTGAG TCAAACTCAGCGAAGTCCCATGTGTTTTATCGCCA	329	DAPQLEDEEPAFPHTDLA KLDDMINRPRWVVPVLPKG ELEVLEAAIDLSKKGLDVK SEACQRRFRDGLTISFTKIL TDEAVSGWKFEIHRCLVEL CVAKLSQDWFPLELLAMA LNPHCKFHYNGTRPCESV SSSVQLPEDELFAKSPDPR SPKGWLVDLLNKFGLNG QILHDFRINGSALNVQIAAL KPFQGCYEFLTLHTVKKYF LPIEMVPOFLENLTDEELK KEAKNEAKNDALSMIISLK NLASRPVPGQEETVKNLEIF RLKMILRLQISSFNGKMNA LNEVNVKVISSVSYYTHRHG NPEEEEWLTAERMAEWIQ QNNILSVLRDSLHQPYVE KLEKILRFVIKEKALTLQDLD NIWAAQAGKHEAIVKNVHD LLAKLAWDFSPEQLDHPFD CFKASRTNASKKQREKLE LIRRLAEDDKDGVMAHRVL NLLWNLASHDDVPVDIMDL ALSAHIKILDYSCSQDRDTQ KIOWIDRFIEELRTNDKWVI PALKQIREICSLFGEAPQNI SQTQRSPHVFYR		
Shigella ipaC	5	prey5814	129		CCATGCCAAACTTGAGAAAGCAGCCTTAGTCCATCTCTTGACTCACTTTTCT TTGGTCTCTCAGCCTCACAGTGTATATCTAACAGAGGTAGTCTATGCCTTG TTAATGCCTGCTGGTGACCTCTGGCTGATGATTCTCTGATTTTCAGTTTCA CTTCTTGAAGAGTGGTGGCCTACCCCTTGTACTGAGTATGCTAACCAAGAAAT AACTTCTACCGAATGCAGATATGGAACCTCGAAGGGGTGCCTACCTCAATG	330	HAKLGESSLSPSLDSLFFG PSASQVLYLTVVYALLMP AGAPLADDDSSDFQHFLLKS GGLPLVLSMLTRNNFLPNA DMETRGRGAYLNALKIAKII		

CTCTAAATAGCCAAAGCTTTTGCTAACTGCCATTGGCTATGGTCATGTTGCA GCTGTGGCAGAGCTTGTACGCCAGGTGTAGAGGTGTGAATCCCATGACA CAGATCAACCAAGTTACCCATGATCAAGCAGTGGTGTACAAAGTGCCCTTC AGAGCATTCCTAATCCATCATCCGAGTGCATCTTAGAAATGTGCAGTTCGT CTTGCTCAGCAGATATCTGATGAGGCTTCAAGATATATGCCTGATATTGTGT AATTAGAGCTATACAAAATATCTGGGCATCAGGATGTGGTGTGTTACAG CTAGTATTTAGCCCAATGAAGAAATCACTAAATTTATGAGAGACCAATGC AGGCAATGAGCCAGACTTGAAGACGACAGGTTTGTGTGAAGCATTGGA AGTGATGACCTTATGTTTGCCTGATCCACAGCTTAGATGCTCTTAGTA AAGAAAGGCTTGGCAGACATTCATGATGACCTTACTATTGCACGTGCACAGC AAACTGTTCTGTCAGTGGCAGAGGAGGCTCTTTTAAATGTGACCAGAT GTTGCATGGACACCGGCTCTACTTTTCTTCACTACTCTACTCTTACTGTT TTGGGAGCACAGCAAGAGAGAGGCTAAACACTCAGGCGACTACTTTACT CTTTAAGACACCTTCTTAATACGCTTACAATAGTAATATTATGTACCCAA GCTGAAGTCTTTCAATAATGAATGATTGGCTTAAAGAAATTAGGATGA TGTTAAAGAACAGGAGAAACGGTATTGAAGAGACGATCTTAGAGGGCCAC CTTGAGTGACAAAGGAGTACTGGCTTTCAACCTTCTGAGAAAAAATTTCA TATTGGTTGTGAAAAGGAGGTGCTAATCTCAATAAGAAATTAATTGATGAT TCATATTTCTGTCATCCAATGTTTACCTACAGTATATGAGAAATGGAGAGCTT CCAGCTGAACAGGCTATTCGGTCTGTGGTTCACCACCTACAAATTAATGCTG GTTTTGAATTTACTGTAGCATAGCTGTGGCTGTGAGGAATCTCAACAA ATAGTAGATTTCTGACTGAATGATTAACATTGGCAGCAGCAATAACTACTTG TGAAGCACTTACTGAGTGGGAATATCTGCCACCTGTTGGACCCGCCACC CAAAGGATTCGTGGGCTGAAAATGCGGGTCTACTTGTACATGAATCTCT GTGATTCAGCAACTCTACATGATTCCTCCATTAGGAACGGTATCTTGCCAT TGAAAGCACAGGTAGTGTAGATGATGATGATGATGATGATGATGATGATGAT GGACAATGAGAGCAATGTTGATCCAGGATGATGATGATGATGATGATGATGAT CAATTTGAAGATAAACCCAGCATTAAGTAAACTGAAGATAGAAAGAGTACAA CATTGGTGCTTAAGACACCTTCAGGTCTCTTTGGAACAGTTCAGGCTTTGGG GACTGCAATCTATGTGCCAGAGGATTTGGAACAGTTCAGGCTTTGGG TGAGCCTGTTAATCTGCGTGAACACACGATGCTTTAGAAATTTTAAATCAT GGTGATAGTTTAGATGAAGCTTTAAAGCTTTAGGACATCCAGCTATGCTAA GTAAAGTCTTAGGAGGTTCTTGTGATCAGAGATCTGCCAAGGCTGCC ACATAGGTACGAATGTGAAGATCTTTTACGACCTAACCGTAGACATTAGAA ATCACCAAAATCTTCTGATTTCTTTGGAACAGTATGTCAAGGAGATTTACTA GAAGGTGCAATGCATATCATTTGTGAAAATGCAATAAAAGGTTGATACCGT AAAGCGCTTGCTGATTAATAATACCTCTGTTCTGCTATACAACTAAAGC GATTTGACTATGACTGGGAAAGAGATGTGCAATCAAGTTCAATGATTTT GAATTTCTCGAGAGCTGGACATGGAACCTTACACAGTTGACAGGTGTCGCAA	TAIGYGHVRAVEACQPGV EGVNPMTQINQVTHDOAV VLQSALQSPNPSSSECMRL NVSRLAQQISDEASRYMP DICVIRAIQKIWASGCSLQ LVFSPNEETKIYEKTNAGN EPDLEDEQVCCEALEVMTL CFALIPTALDALSKEKAWQT FIIDLLHCHSKTVRQVAQE OFFLMCTRCMGMHRPLLF ITLLFTVLGSTARERAKHSG DYFTLLRHLLNYAYNSNIN PNAEVLNNEIDWLKRIRD DVKRTGETGIEETILEGHLG VTKELLAFQTSKKFHIGCE KGGANLIKELIDDFIFPASV YLQYMRNGELPAEQAIQV GSPPTINAGFELLVALVGC VRNLKQIVDSLTEMYYIGTA ITTCEALTEWEYLPVGP PPKGFVGLKNAGATCYMN SVIQQLYMIPSIRNGILAE TGSDVDDDDMSGDEKQDNE SNVDPRDDVFGYPQKFED KPALSKTEDRKEYNIGVLR HLQVIFGHLAASRLQYYVP RGFWKQFRLWGEVPVNLRE QHDALFFNSLVDSLDEAL KALGHPAMLSKVLGGSFAD QKICQGCPhRYECEESFTT LNVDIRNHQNLDSLEQYV KGDLLLEGANAYHCEKCNK KVDTVKRLLIKLPVLAIQ KRFDYDWERECAIKFNDYF EFPRELDMEPYTVAGVAKL EGDNVNPESLIQSEQSE SETAGSTKYRLVGLVHSG QASGGHYYSYIQRNGGDDG ERNRWYKFDGDDVTECKM
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20170 "Sheet"

				<p>AGCTGGAAGGGGATAATGTAAACCCAGAGAGTCAGTTGATACACAGAGTGA GCAGTCTGAAAGTGAGACAGCAGGAGGACACAAATACAGACTTGTGGGTG GCTCGTACACAGTGGTCAAGCAGAGTGGGGCATTATTCTTACATCATC CAAAGGAATGGTGGAGATGGTGAGAGAAATCGCTGGTATAAATTTGATGATG GTGATGTAAACAGAAATGTAATGGATGATGACGAGAAATGAAAAACCAAGTG TTTTGGTGAGAGTACATGGGAGAGTGTGGATGCTTATACCTTTTATGAAC TCATACAGGCGCCAGAAAGGTGGTGAATGCTTATATACCTTTTATGAAC GAATGGACACAATAGACCAAGATGATGAGTTGATAAGATATATACAGAGCTT GCTATACCCACAGACCTCATCAGATTATTATGCCATCAGCCATTGAGAGAA GTGTACGGAACAGAACGTACAATTCATGCAATAACCGAATGCAGTACAGTAT GGAGTATTTTCAGTTTATGAAAAAACTGCTTACATGTAATGGCGTTTACTTAA CCCTCCTCCGGGCAAGATCACCTGTTGCCCTGAAGCAGAGAAATCACTATG ATCAGTATTTCAACTGCTGCTAGTTCCTCTTACTACAGGATTTTACACAAA GAAAGTAGTCCGTGCTGCCAGTGATTGGTATGATGCTTATGCTTATCTC CTTCGTACAGCAAGAAATGTAAGTTTTGGTTGCTCATAACTGCTTTTAA TGTTCAAAATCGCTTCTCCGAATACCTTCTGGAGTGCCCTAGTGCAGAGTG AGGGGTGCGTTTGCAAACTTATAGTCTTATTGCACTTTTCTTCTGCAAGA TGGGCCATGCTTCACTTTTGGTCTCTGACCTTCTAGTCTAGTCAAGCTTAT GACAACTTAAGCTTGAGTATCATCTTAAGAGCAGTACTAAATCTCTTGAG AAGGGAAGTTTACAGAGCATGGCGTCAATTTACAGCAGTATTTCAACCTGTTT GTAATGTATGCCAATTTAGGTGGCAGAGAAACAGCAGTCTTGAATTTGA GTGTACCTGCTACTTTATGCTTGCTTTAGATGAAGTCCAGGTCCTCCA ATCAAAATACAGTATGCTGAATAGGCAATTTATCTAGTCAAGTCTCCTCCA GATCCGCTGTTGCAATGCTCTTCAAGAAATGCAGTCTTCAATCAATGGTAATC CTCCTCTTCCCAATCCTTTGGTGATCCTAATTTTGAGAACCAAGTTATGCAAGAA TTCAGCAGAAATGTGGCAGACATTTATTTTGAGAACCAAGTTATGCAAGAA ATCATTGAAGACTGCAGTAATTCAGAGGAAACCGTCAAAATGCTTCTGTTTTG CTGCTGGGAGAAATCCTCAGTTCTCATCTACTGCTCCTCAGTGAACCTCTCTGG CAGGTTGCATATTCCTATCCCTATGAACCTGGGCGCTTATTTGGATCTGCTTTT GCAAACTTACTGATTGAGGACTCCTGGCAAACTCACAGAAATTCATAATGCAC TGAAAGGAATTCAGATGACCGAGATGGCTGTTTGACACAATCCAGCGCTC TAAGAACTACTATCAAAAAGAGCATACCAAGTATAAAATGTATGGTAGCTC TATTTAGTAACTGCTGTTGCTTACCAATCCTGCAAGGCAATGGAGATCTT AAAAGAAAGTGACCTGGCAGTGAATGGCTTGGAGATGAACCTTGAAGA AGACCATATCTGGCAATCCTCAGTACACTTACAACTTGGTCTCCCCCAGT GCAAGCAATGAAACGTCATGTTATTTCTTGGAGAGATCACATAGTCT AGGATGACACTTGCAAAAGCTTGTGAACCTCTGTCAGAGAGGAGTAAAAAAG CCACCAGTGTGCAGCAGATAGAAATGGAAGAGCAAGAGCCAGATGACC AAGATGCTCCAGATGAACATGATGCTGCTCCACCTGAAGATGCCCATTTGTA</p>	<p>DDDEEMKNQCFGGGYMG EVFDHMMKRMYSYRRQKR WWNAYIPFYERMDTIDQDD ELIRYISELAITTRPHQIMPS AIERSVRKQNVQFMHNRN QYSMEYFQFMKKLLTCNG VYLNPPPGQDHLPEAEET MISQLAARFLFTTGFHTKK VVRGSASDWYDALCILLRH SKNRFWFHNVLFNVSN RFSEYLLECPSAEVRGAFA KLIVIAHFSLDGPPCPSPF ASPGSSQAYDNLSDHL LRAVLNLLRREVSEHGRHL QQYFNLFVMYANLGVAEKT QLLKLVPATFMLVSLDEG PGPIKYQYAEGLKLYSVV SQLIRCCNVSSRMQSSING NPPLPNPFGDNLSPIMPI QQNVADILFVRTSYVKKIE DCSNSEETVKLLRFCCWE NPQFSSTVSELLWQVAYS YPYELRPYLDLLQLLIEDS WQTHRIHNALKGIPDDRDRG LFDTIQRSKNHYQKRAYQC IKCMVALFSNCPVAYQILQG NGDLKRKWTWAVEWLGD ELERRPYTGNPQYTYNNW SPPVQSNETSNGYFLERSH SARMTLAKACELCPPEVKK ATSVQQIEMEESKEPDDQD APDEHESPPPEDAPLYPHS PGSQYQQNNHVHGQPYTG PAAHMMNNPQRTGQRAQE NYEGSEEVSPPTKQD*</p>
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Shigella ipaC	5	prey67479	130	CCCCATTACCTGGATCTCAGTATCAACAGAAATAACCATGTGCATGGACAG CCATATACAGGCCCGCAGCAGCACATCACATGAACAACCTCAGAGAACTGGC CAACGAGCACAGAATAATTATGAAGGCAGTGAAGAGTATCCCCACCTCAAA CCAAGGATCAATGA	CGATGAGCTCATGAGACATCAGCCCCACCCCTTAAACAGATGCAACGACTGCC ATCATCAAGTTACTTGAAGAAATCTGTAATCTTGAAGGGACCCCAATACAT CTGTCAAGAGCCATCGATCCAGAGGAGATGGCACTGCCACTGCTCCTCC CCCAAGGTCTAATCATCCGCGAGAAGAGCCTCTAGTGAGGATGAGGAGGA AGAGGAAGTACAGGCCATGACAGAGCTTAAATCTACCCAGCAAAATGAAACT GAGCCTAATCAGCAGGTTGTTGTCACAGAGGAACGTATTCCTATTCOCCTCA TGGATTACATCCTTAATGTGATGAAATTTGTGAATCTATTCTGAGCAACAAT ACAACAGATGACCACTGCCAGGAATTTGTGAATCAGAAAGGACTGTTGCCCT TGTTACCAATTTGGTCTTCCCAATCTGCCAATTGACTTCCACATCTGCT GCCTGTACAGGCTGTTGACAGGTCTGCAATCCATATTGACACTGTACATG AACCCAAAGTCCCTTCAAGAGGGTCTCCTTCAGTTGGACTCCATCCTCTCCTC CCTGGAGCCCTTACACGGCC	331	DELMRHQPTLKTDAATAIK LLEEICNLGRDPKYICQKPS IQKADGTATAPPPRSNHAA EEASSEDEEEVEVQAMQS FNSTQQNETEPNQVVGT EERIPIMDYILNVMKFVE SILSNNTDDHCQEFVNQ GLPLVTILGLPNLPIDFPTS AACQAVAGVCKSILTLSHE PKVLQEGLLQLDSILSSLEP LHR
Shigella ipaC	5	prey700	131	ATGGGAATTGGTCTTCTGCTCAAGGTGTGAACATGAATAGACTACCAGGTT GGGTAAGCATTCATATGTTACCATGGGATGATGGACATTCGTTTGTCT TCTGGAAGTGGACAACCTTATGGACCACTTCACTACTGATGATGCTATTG GCTGTTGTGTTAATCTTACAAATACCTGCTTTTACACCAAGAATGGACAT AGTTTAGGTATTGCTTCACTGACCTACCGCAATTTGTATCCTACTGTGGG GCTTCAACACCCAGAGAGTGGTCGATGCCAATTTTGGCAACATCCTTTC GTGTTTGATATAGAAGACTATATCGGGAGTGGAGAGGAGAAATCCAGGCAC AGATAGATCGATTCCTATCGGAGATCGAGAAGGAGAAATGGCAGACCATGAT ACAAAAAATGTTTCTATTTAGTCCACCATGGTACTGTGCCACAGCAG AGGCTTTGCCAGATCTACAGACCAAGCCGTTCTAGAGAAATAGCTTCCAT TAAGAAATAGACAAAGAAATTCAGAAATGGTATTAGCAGGAAGAATGGGAGAA GCCATTGAACAACACACAGTTATACCCAGTTTACTTGAAG	332	MGILSAQQVNMNRLPGW DKHSYGYHGDDGHGSCSS GTGQPYGPTFTTGDVIGCC VNLINNTCFYTKNGHSLGIA FTDLPPNLYPTVGLQTPGE VVDANFGQHPFVFDIEDYM REWRTKIQAIQIDRFPIGDR EGEWQTIQKMVSSYLH HGYCATAEAFARSTDQTVL EELASIKNRQRIQKLVLAGR MGEAETTTQQLYPSLLE	
Shigella ipaC	5	prey67481	132	AAAAAGACCAGAAAGCTCCAGATAAGAGGCCATCTGCGGGCCACCGC CAACCTGCCCTCTACAACTGACCGGGCGCGGTCCAGACCAACATGAG AGACTTCAGACAGAACTCCGGAAGATACTGGTGTCTCTCATCGAGGTGGC GCAGAACTGTTAGCGTGAACCCAGATCGGTGGAATTTTAAAGAAAGGC GAATGCAATGCTGGACGAGGACGAGGATGAGCGTGTGACGAGGCTGCC TGCGGAGCTCACGGAGATGGCTTCCGGAGAACAGAGCCACCAAGGCC CTTCAGCTGAACCACTGTGCGTGCCTCAGGCCATGGAGTGGCTAATTGAAC ACGAGAAGACCCG	333	KDQKAPDKEAILRATANL PSYNMDRAAVQTNMRDFQ TELKILVSLIEVAQKLLALN PDVELFKKANAMLDEDED ERVDEAALRQLTEMGFEN RATKALQLNHMSVQPAME WLIEHAEDP	
Shigella ipaC	5	prey67488	133	CTGTTATGAAGAGTGAGCGACACGACGCCGAGGCACAGCTGGCCACAGCA GAGCAGCAGCTACGGGGGCTACGGACCGAGGCGGAAGGCTCGCCAGG CCCAGAGCCGGGCCAGGAGGCTCTGGACAAGGCCAAGGAGGAAGACAAG	334	LFMKSERHAAEAQLATAEQ QLRGLRTEAERARQAQSR AQEALDKAKEKDKITELSK	

Shigella ipaC	5	prey51967	134	<p>AAGATCACAGAACTCTCCAAAGAAAGTCTTCAATCTTAAGGAAGCCTTGAAGG AGCAGCCGGCCCTCGCCACCCCTGAGGTGAGGCTCTCCGTGACCAG GTGAAGGATTTACAGCAGCAGCTGCAGGAAGCTGCCAGGACCACTCCAGC GTGGTGGCTTTGTACAGAAGCCACCTCTATATGCCATTGAG</p> <p>TGACCAACTTGTGTGATATTGCTGGAATAATTTGAAAGATCAAGATACCT TGAGTCAGCATGGAATTCATGATGAGCTTACTGTTACCTTGTCATTAAACA CAAAACAGGCCCTCAGGATCATTGAGCTCAGCAACAATAACAGCTGGAAGCA ATGTTACTACATCAACTCCTAATAGTAACCTACATCTGTTCTGCTACTA GCAACCCCTTTTGGTTAGTGCCCTTGGGGGACTTGCAGGTCTGAGTAGCTT GGTTTGAATACCTACCAACTTCTCTGAACTACAGAGTCAGATGCAGCGACAA CTTTTGTCTAACCCCTGAATGATGTCAGATGATGAGACAGTTAATTATGGCCAATCCA GAGCATGCTCTCAATCCTGACCTGATGAGACAGTTAATTATGGCCAATCCA CAATGCAGCAGTTGATACAGAGAAATCCAGAAATAGTCATATGTTGAATAA TCCAGATATAATGAGACAAAGTTGGAATTCGCCAGGAATCCAGCAATGATG CAGGAGATGATGAGGAACCAAGGACCGAGCTTTGAGCAACCTAGAAAGCATC CCAGGGGATATAATGCTTAAGGGCATGTACACAGATATTCAGGAACCAA TGCTGAGTGTGCACAGAGAGGTTGGTGGTAATCCATTGCTTCTCTGGT GAGCAATACATCCTCTGGTGAAGGTAGTCAACCTTCCCGTACAGAAATAGA GATCCACTACCAATCCATGGGCTCCACAGACTTCCAGAGTTCATCAGCTT CCAGCGGCAC</p>	<p>EVNFKALKEQPAALATP EVEALRDQVKDLQQQLQE AARDHSSWALYRSHLLYAI Q</p> <p>DQLVLFAGKILKDQDLSQ HGIHDGLTVHLVKTQNRP QDHAQQTNTAGSNVTS STPNSNSTSGSATSPPFGL GGLGGLAGLSSLGLNTNF SELSQMQRQLLSNPMM VQIMENPFVQSMNSPDL RQLIMANPQMQLIQNP ISHMLNPDIMRQTLELAR NPAMMQEMMRNQDRALS NLESIPGGYNALRRMYTDI QEPMLSAEQEQFGGNPFA SLVSNSTSSGEGSQPSRTEN RDPLPNWPAPQTSQSSA SSG</p>
Shigella ipaC	5	prey67491	135	<p>AAAGAAAGATGTCAAGCAGCCAGAAAGTCCCTCCCTCCATCACAAACAAACA ACTTCTACTACCCAGCTACCAACACCACCTGTACAGCCACGGTCCACCAC AGCCACAGTACAGCTACCCAGACATCAATGCTATTCCTTCCGGCTTGGC ACCACACATTACTTAATCCAACTTCCCTGTTTTCAGGCCCATCCACAGT TGAAGCAGTGTGCGTCAGGCAATGAACGGGCTGTCCAGGAGCTGGTCC ATCCTGTGGTGATCGATCAATTAAGATTGCCATGACTACTTGTGAGCAATA GTCAGGAAGGATTTGCCCTGGATTGAGGAGTCTCGAATGCGAATAGCA GCTCATCAGATGATGCGTAACCTGACAGCTGGAATGGCTATGATACATGCA GGAAACCTTTGCTCATGAGCATATCTACCAACTTAAAAACAGTTTTGCTCA GCCCTTGTACTGCTTCCCAACAAAGAGAAATGATGATCAGGAGCTG CTCAATTAGCTCAGGACAAATGTGAGTTGGCTTGTCTTTTATTGAGAGACT GCAGTAGAAAAGCAGGCCCTGAGATGGACAAGAGATTAGCAACTGAATTTG AGCTGAGAAAACATGCTAGGCAAGAGGACGACGATACGTGATCCTGTTGT TTAACATATCAAGCTGAACGGATGCCAGAGCAATCAGGCTGAAAGTTGGT GGTGTGGACCCAAAGCAGTTGGCTGTTTACGAAGAGTTTGCACGCAATGTTG CTGGCTTCTTACCTACAAATGACTTAAGTCAGCCCCACGGATTTTATGCCCA GCCCATGAAGCAAGCTTGGGCAACAGATGATGATGCTCAGATTTATGATAAG TGATTACAGAACTGGAGCAACATCTACATGCCATCCCAACCACTTGGCCA TGAACCCCTCAAGCTCAGGCTCTTGAAGTCTCTGGAGGTTGATTTTATCT</p>	<p>KDVKQPEELPPIITTTTST TPATNTTCTATVPQPQYS YHDINVYSLAGLAPHITLNP TIPLFQAHPQLKQCVROALE RAVQELVHPVVDRSIKIAMT TCEQIVRKDFALDSESRM RIAHHMMRNLTAGMAMIT CREPLMSISTNLKNSFASA LRTASPPQREMMDQAAAQ LAQDNCELAACCFIQKTAVE KAGPEMDKRLATEFELRKH ARQEGRRYCDPWLTLYQA ERMEPIRLKVGGVDPKQL AVYEEFARNVPGLPTNDL SQPTGFLAQPMMKQAWATD DVAQIYDKCITELEQHLHAI PPTLAMNPQAQALRSLEV VLSRNSRDAIAALGLLQKA VEGLLDATSGADADLLRY</p>

Shigella ipaC	5	prey323	136	CGAAACTCTCGGGATGCCATAGCTGCTCTTGGATTGCTCCAAAAGGCTGTAG AGGGCTTACTAGATGCCACAAAGTGGTGTGCTGATGCTGACCTTCTGCTGGCCTA C	337	DSIPTPSNMEETQQKSNE LLRISLLIESWLEPVFLRS MFANNLVYDTSDDYHLL KDLEEGIQTLMGRLEDGSR RTGQILKQTYSKFDTNSHN HDALLKNYGLLYCFRKDMD KVETFLRMVQCRSVEGSC GF*
Shigella ipaC	5	prey67495	137	AGACTCTATTCCGACACCCCTCCAACATGGAGGAAACGCAACAGAAATCCAAAT CTAGAGCTGCTCCGCATCTCCCTGCTGCTCATCGAGTCGTGGCTGGAGCCC GTGCGGTTCTCAGGAGTATGTTCCGCAACAACCTGGTGTATGACACCTCG GACAGCGATGACTATCACCTCTCTAAAGGACCTAGAGGAAGGATCCAAACG CTGATGGGAGGCTGGAAGACGGCAGCCGCGGACTGGGCAGATCCTCAA GCAGACCTACAGCAAGTTTGACACAACTCGCACAACTGACGCACTGCTC AAGAACTACGGGCTGCTCTACTGCTTACGGAAGGACATGGACAAGTCCGAG ACATTCTCGCATGGTGCAGTGCCGCTCTGTGGAGGGCAGCTGTGGCTTC TAG	338	AAVSULKPFSGAPSTSSP AKALPQVRDRWKDLTHAISI LESAKARVTNTKTSKPIVHA PKKYRFHKTRSHVTHRTPK VKKSPKVRKKSYSLS
Shigella ipaC	5	prey67506	138	GCAGAGTCTCTGTGTAACCCCTTCTCCAAGGGCGGCCCTTCTACCTCCA GCCCTGCAAAAGCCCTACCACAGGTGAGAGACAGATGGAAGACTTAACCC ACGCTATTTCCATTTAGAAAGTGCAAAGGCTAGAGTTACAAATACGAAGACG TCTAAACCAATCGTACATGCCAGAAAAAATACCGCTTTCACAAAACCTCGCTC CCACGTGACCCACAGAACACCCCAAAGTCAAAAAGAGTCCAAAGGTCAGAAA GAAAGTTATCTGAGTA	339	RAIPNQGEILVIRRGWLTIN NISLMKGSKEYWFLVTAE SLSWYKDEEEKKYMPL DNLKIRDVEKGFMSNKHVF AIFNTEQRNVYKDLRQIELA CDSQEDVDSWKASFLRAG VYPEKDQAEENEDGAQENT FSMDPQLERQVETIRNLVD SYVAINKSIRDLMPTIMHL MINNTKAFIHHELLAYLYSS ADQSSLMEEESADQAQRDR DMLRMYHALKEALNIIGDIS TSTVSTPVPP
Shigella ipaC	5	prey4578	139	GAGAGCCATCCCCAATCAGGGGAGATCCTGGTATCCGAGGGGCTGGC TGACCATCAACAACATCAGCTGATGAAAGCGGCTCCAAGGAGTACTGGTT TGCTGACTGCCGAGTCACTGCTCTGTTACAAGGATGAGGAGGAGAAAGA GAAGAAGTACATGCTGCTCTGGACAACCTCAAGATCCGTGATGTGGAGAA GGGCTTATGTCCAACAAGCACGCTTTCGCCATCTTCAACACGGAGCAGAGA AACGTTACAAGGACCTGGGCGAGATCGAGCTGGCTGTGACTCCCGAGAA GACGTGGACAGCTGGAAGGCTCGTTCTCCGAGCTGGCGTCTACCCCGAG AAGGACGAGGAGAAACGAGGATGGGCGCCAGGAGAACACCTTCTCCATG GACCCCAACTGGAGCGGAGGTGGAGACCATTCGCAACCTGGTGGACTCA TACGTGGCCATCATCAACAAGTCCATCCGCGACCTCATGCCAAAGACCATCA TGCACCTCATGATCAACAATACGAAGGCTTATCCACCCAGAGCTGCTGGC CTACCTATACTCTCGGCAGACCAAGGCTTATCCACCCAGAGCTGCTGGC CCAGGCACAGCGGCGGACGACATGCTGCGCATGTACCATGCCCTCAAGG AGGCGCTCAACATCATCGGTGACATCAGCACCCAGCACTGTGTCCACGCCCTG TACCCCGGCC	340	QKQLESNKIPELDMTEVVA PFMANIPLLLYPQDGPGRSK PQPKDNGDVQCDCIQMVT DIQTAVRTNSTFVQALVEH VKEECDRLGPGMADICKNY ISQYSEIAIQMMMHMQPKEI

					TCCAGATGATGATGCACATGCAACCCAAAGGAGATCTGTGCGTGGTGGGTT CTGTGATGAGGTGAAAGAGATGCCATGCAGACTCTGTGCCCCGCCAAAGT GGCCTCCAAGAAATGTATCCCTGCCCTGGAAGTGGTGAGCCCATTAAGAA GCACGAGGTCCCAGCAAAGCTGATGTTTACTGTGAGGTGTGAATCCTG GTGAAGGAGGTGACCAAGCTGATTGACAACAAGACTGAGAAGAAATAC TCGACGCTTTTGACAAAATGTGCTCGAAGCTGCCGAAGTCCCTGTGCGAAGA GTGCCAGGAGG		CALVGFCDEVKEMPQTL VPAKVASKNVIPALELVEPI KKHEVPAKSDVYCEVCEFL VKEVTKLIDNNKTEKILDA FDKMCSKLPKSLSEECQE	
Shigella ipaC	5	prey1135	140		TGCAGCCTTAGTGGCATCTAAAGTATTTATCACCTGGGGGCTTTGAGGAG TCCTGAATATGCTCTTGAGCAAGGACCTCTTCAATGTCAATGATAACTC TGAATATGTGAAACTATTATAGCAAAATGCATTGATCACTACACCAAACAAT GTGTGAAAATGCAGATTTGCCTGAAGGAGAAAAACCAATTGACCAGAG ATTGGAAGGCATCGTAATAAATGTTCCAGCGATGTCTAGATGATCACAAGT ATAACAGGCTATTGGCATTGCTCTGGAGACACGAGACTGGACGCTCTTGA AAAGACCATACTGGAGTCGAATGATGTCCAGGAATGTTAGCTTATAGCCTT AAGCTCTGCATGCTTTAATGCAGATAAACAGTTTCGGAATAAAGTACTAAG AGTTCTAGTTAAAATCTACATGAACCTGGAGAAACCTGATTCATCAATGTTT GTCAGTGCCTTAATTTCTTAGATGATCCTCAGGCTGTGAGTGATATCTTAGAG AAACTGGTAAAGGACAAACCTCCTGATGGCATATCAGATTTGTTTGATTT GTATGAAAGTGTAGCCAGCAGTTTGTGATCTGTAATCCAGAATCTTCGAA CTGTTGGCACCCCTATTGCTTCTGTGCTGGATCCACTAATACGGGTACTGT TCCGGGATCAGAGAAAGACAGTGCATCGATGGAACAGAGAAAGACAAG CAGTGCATTTGTAGGAAAGACAC		341	AALVASKVYHLAGFEESL NYALGARDLNFVNDNSEYV ETIAKCIDHYTKQCVENAD LPEGEKPIDQRLEGIVNK MFQRCLDDHKYKQAGIAL ETRRLDVFEKTILESNDVPG MLAYSLKCLMSLMQNKQF RNKVLRLVKIYMNLEKPD FINVCQCLIFDDPPQAVSDIL EKLKEDNLLMAYQICFDLY ESASQQFLSSVIQNLRTVG TPIASVPGSTNTGTVPGE KSDSDMETEEKTSSAFVGK T
Shigella ipaC	5	prey67465	141		CACCTGCGCGCTGCCATGATGCCGTGGCGGAGGACGAGATCAAGCCCTA CATCAGCCGCTGTTCTGTGTGAGGCCCGGCCATCGCCATCGCGGTCCA CAGTCAGGATGTCTCCATCCACACTGCCAGCTGGGTGGCGGAGTTTGTG GATCGGATATCCTTCTCATGCACACGCGCGGAGACGAAAGCGGTGG CCAATCACTGGTGTACCGGGCAGCTGTCTAGAGGACTTCCGCGCCACACC ATTCACTGAATGCAATGGAGCGCGGCACCTGCCACTACTACGCCAACAA GTACAGCTTCTGGCTGACCACCAATTCGAGCAGAGCTTCCAGGGCTCGCC CTCCGCGACACGCTCAAGGCCGCGCTCATCCGCACACACATCAGCCGCTG CCAGGTGTGCATGAAGAACCTGTGA		342	TAPLPMMPVAEDEIKPYISR CSVCEAPAIAIAVHSQDVS PHCPAGWRSWLWIGYSFLM HTAAGDEGGQSLSVSPGS CLEDFRATPFIECNGGRGT CHYYANKYSFWLTTIPEQS FQGPSADTLKAGLIRTHIS RCQVCMKNL*
Shigella ipaC	5	prey28880	142		AAGATCAAGTGGCTTACCTTATCCAAACAAATGTTATCCACCTTTTTCGAAC TTGCTGACTGTAAAGATGCACAAGTTGTGCAAGTAGTACTCGATGGAATAA GTAATATATTAAAAATGGCTGAAGATGAGGCAGAAACCATAGGCAATCTTATA GAAGAATGTGGAGGCTGGAGAAAAATGAACAACCTTCAAAATCATGAAAAATG AAGACATCTACAAATGGCCTATGAGATCATTTGATCAGTTCTTCTTCTCAGAT GATATTGATGAAGACCCCTAGCCTTGTTCAGAGGCAATTCGAAGCGGGAACAT TTGGTTTCAATTCTGCGCAATGTACCAACAGAGGGTTCAGTTTATG		343	DQVAYLIQONVIPPFCNLLT VKDAQVQVWLVDGLSNILK MAEDEAETIGNLIEECGGLE KIEQLQNHENEDIYKLAYEII DQFFSSDDIDEDPSLVPEAI QGGTGFNSSANVPTGEF QF*
Shigella	5	prey3599	143		GGCAGTTATTGAGATGTGTCAGTTACTGGTTCATGGGAAATGAGGAGACACTG	344	AVIEMCQLLMGNEETLGG	

ipaC	GGAGGGTTTCTGTCAAGAGTGTGTTCCAGCTTTGATTACGTTACTTCAGAT GGAGCACAAATTTGATATTATGAACCATGCTTGTGAGCCTTAACATACATGA TGGAAGCACCTTCTCGATCTTCTGCTGTTGATAGTAGATGCTATTCTGCTTTT TTAGAAAAGCTGCAAGTTATTCAGTGTATTGATGTGGCAGAGCAGCCTTGA CTGCTTGGAGATGTTGTCACGGAGACATAGTAAGCCATTCTACAGGGG GTGGTTGGCAGACTGTTGCTGTACCTAGAACTCTCAGCATAAATGCCCA AAGAAATGCATTAGCAATTCAGCTAATGCTGCCAGAGTATCAGGCCAGAT GAATTTCAATTTTGTGGCAGATTCACTCCATTGCTAACCCAAAGGCTAACACA TCAGGATAAAAAGTCAGTAGAAGCACCTTGCTTTGTTTGCACGCCCTAGTG GACAACTTCAGCATGAGGAGAAATTTACTCCAGCAGGTGCTTCCAAAGATC TGCTTACAAATGTTCAACAGCTGTTGGTAGTGACTCCACCCATTTAAGTTCT GGGATGTTTATAATGTTGGTTCGCATGTTTCTCTGATGTGTTCCAACTGTCC AACTTTAGCTGTTCAACTTATGAACAAACAACTTGCAGAAACGCTTCACTTTC TCCTGTGTGGTGCCTCCAATGGAAGTTGCAGGAACAGATTGATCTTGTTC ACGAAGCCCTCAAGAGTTGATGAATGACATCTCTGATTTGTGAACCTTATGC CATGTTTACCAAAAGAGGCAATTTTGCAGTTGATACCATGTTGAAGAAGGGA AATGCACAGAACACAGATGGTGCATATGGCAGTGGCGTGATGATCGGGGC CTCTGGCATCCATATAACAGGATTGACAGCGGATCATTGAGCAAATCAATG AGGACACGGGAACAGCAGCTGCCATTGACAGAAACCTAACCCGTTAGCCA ATAGTAACACTAGTGGATATTCAGAGTCAAGAAGAGATGATGCTCGAGCACA GCTTATGAAGAGGATCCGGAAGTGGCTAGCTTTTATTAGACATATTG GTGTTCTTATGAAGTGTATGTTCTCAGCAGGACCTGCGGTGACACATAA GTGCTTAGAGCAATCTTAGGATAATTTATTTGCGGATGCTGAACCTCTGA AGGATGTTCTGAAAAATCATGCTGTTTCAAGTCACATGCTTCCATGCTGCA AGCCAAGACCTGAAGATAGTAGTGGAGCACTCAGATGGCAGAAATTTAA TGCAGAAGTTACCTGATATTTTGTGTTTACTTCAGAGAGAGGTGTAATG CATCAAGTAAACACTTAGCAGAAATCAGAGTCTTTGTTGACAAAGTCCACCAA GGCATGTACGAATGGATCGGGATCCATGGGATCCACAACTTCAGTCAGCAG TGGACAGCCACAGCTGCCACTCATGCTGCAGCTGACTTGGGATCACCCAG CTTGACAGCAGCAGGGATGATTTTAGATCTCAGCCCTCAAGTCTGATTA AGTGATGTTCTAAAGAGAAAAAGACTGCCAAAGTAGACAACTCAAGTAAAGCC AAGTACTACCTCCAGAGATGATGACAAAGTAGACAACTCAAGTAAAGCC CCACCACTACTCAGTCACCTAAATCTTCTTCTGGCAAGCTTGAATCCAAA ACATGGGGAAGGTTAAGTACACAGTCCAAACAGCAACATTTGAGCCAGCAG GGACTCGGGAGGAGTGGCTTCCAGGCTGCCCTCAAGGATACCATCT CCAATAATAGAGAAAAATTAAGGTTGATTAAAGGAGCAGGCACATAAATTT GTAGAACGTTATTTCAAGTCTGAGATAATGATGGAAGCAACCTGCAATTGA ATGTCTTCAGAGACTTTGTGCTGCAACCCGAACTCAACCTCCAGGTGGA TGGTGGAGCTGAGTGCCTTGTAGAAATCCGTAGCATAGTCTCAGAGTCAGAT				FPVKSVPALITLQMEHNF DIMNHACRALTYMMEALPR SSAVVDAIPVFLEKLQVIQ CIDVAEQALTAEMLSRRH SKALQAGGLADCLLYLEFF SINAQRNALIAANCCOSIT PDEFHFVADSLPLLTQRLT HQDKKSVESCLCFARLVD NFQHEENLLQQVASKDLLT NVQQLLVTPPISSGMFIM VVRMFSLMCSNCP TLAVQL MKQNAETLHFLCGASNG SCQEIDLVRSPQEL YEL TSLICELMPCLPKEGIFAVD TMLKKGNAQNTDGAIWQW RDDRGLWHPYNRIDSRIE QINEDTGTARAIQRKPNPLA NSNTSGYSESKKDDARAQ LMKEDPELAKSFITLFGVL YEVYSSSAGPAVRHKCLRA ILRIYFADAEALLKDLKNHA VSSHASMLSSQDLKVVGA LQMAELMQKLPDIFSVYFR REGVMHQVKHLAESESLT SPPKACTNGSGSMGSTTS VSSGTATAATHAAADLSP SLQHSRDDSLSPQGRSL DVLKRRLPKRGP RP KY PRDDDKVDNQAKSP TTT QSPKSSFLASLNPKTWGR STQSNNSNIEPARTAGSG LARAASKDTISNNREKIG WIKEQAHKFVERFYSSENM DGSNPALNVLQRLCAATEQ LNLQVDGGAECLEIRSVS ESDVSSFEIQHSGFVKQLL YLTSKSEKDAVSREIRLKR LHVFFSSPLPGEPIGRV VGNAPLLALVHKMNNCLSQ
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				<p> GTTTCATCTTTGAAATCCCAACATAGTGGATTTGTGAAGCAGCTGTGCTTTA TTTGACATCTAAAGTGAAAGGATGCTGTGAGCAGAGAGATCAGATTAAG CGATTTCTCATGTATTTTCTCTCCACTTCTCGAGAGAGAGCCCATGG AAGAGTGAACCAAGTGGTAATGCACCTTTGTGGCATTAGTTCACAAGATG AACAACTGCCTCAGCCAGATGGAACAATTTCCAGTCAAAGTACATGATTTCC CTAGTGAAATGGACAGGAGGAGCTTTTCTCTCAACAGAGGATCACAGG CTTTAAATTTTCAACACACATCAATTAATGCCAGTTACAAAGGCATCCA GACTGTGCAATGTGAAGCAGTGAAGGCTGACCTGTCAAGATTGACCCCT CTGGCTTTGGTACAAGCCATCGAGAGATACCTTGTAGTTAGAGGGTATGGAA GAGTAAGAGAAGATGATGAAGACAGCGATGACGATGGATCAGATGAGGAAA TAGATGAGTCTGCTGCTCAGTTCCTAAATTCAGGAAATGTAAGACACAG GCTGCAGTTTATATTGGAGAACATTTGCTGCCGTAAACATGACTGTGATC AGGCAGTACGGCAGTTTAGTATACAGGCTGAAGTGAAGAGAAATCCACAGA TGATGAGAGCAATCCTCTAGGACAGCTGTTATTTGGACAAAGACTCATACA ATATGGTATAAACCTGTGAGAGAGATGAAGAAAGTAATAAAGATTGTGTTG GTGTAAGAGAGAGAGCCCAACAGCTCCAAACGAAACTTCCCTAGAAA TGCAAAAAGCATGATGAGTTATGGACAGTGGAGTGCCCATCAGTATCA AATCCTTTAGAAAGTTACCTCATTCCACACCACTGAAATATAACATTTGAA GACCCGTCAATTAGATGATCCTTCTTTAAGAGTTTACATGCTATCAGTCG ATACTGGTATTACTGTATGATAATGCAATGTGCAAGGAAATATTCCAACTA GTGAATTTATAACAGTAAGTTAACAGCAAAAGCAATAGGCAACTTCAAGAT CCTTTAGTAATCATGACAGGAACATCCCAACATGGCTTACTGAGCTAGGAA AAACCTGCCCCATTTTCTTTTGTATACCCGGCAAATGCTTTTATGTAA CTGCATTTGATCGGACCGAGCAATGCAAGATTACTTGATACCAACCCAGA AATCAACCACTGCTGATTTCAAGATAGCAGAGTTGCACCTAGATTGGATAGA AAAAACGTAAGTGAACCGAGAGAGCTGCTGAACACAGCGGAGTCTGTG ATGCAGGACCTCGGCAGCTCAGGGCCATGTTAGAAATCCAGTATGAAATG AGGTTGGTACAGGCTTGGGCTACACTGGAGTTTATGCGCTGTATCTCA GGAACACAGAGAGCTGACTTGGGCTTTGGAGAGGTGAAGAAAGTAACTCTT AGCAATCCAAAAGGAGCCCAAGAGGACCAAGTATATTCAAAACCTCCAGG GCCTGTTGCGCTTCCCTTGGTAGGACAGCAAGCCAGCTCATATCGCAA GGTTAAGATGAAGTTTCGCTTCTAGGAAATTAATGGCCAAAGCTATCATG GATTTAGATTGGTGGACCTTCCCTTGGCTTACCTTTTATAAATGGATGCT ACGCAAGAAACTTCACTGACATCAGAGATTGTTGACATCGACCCAGTT GTAGCCAGATCAGTTTATCACCTAGAAGACATTGTCAGACAGAGAAAGAG TTGAACAAGATAAATCCAGACCAAGAGAGTCTACAGTATGCAATTAGAAAC CTTGACTATGAATGGCTGCTCAGTTGAAGATCTAGGACTGGATTTCACTCTG CCAGGGTTTCCCAATATCGAACTGAAGAAAGGAGGGAAGGATATACCACTCA CTATCCACAAATTTAGAGGAGTATCTAAGACTGGTTATATTCTGGGCACTAAAT </p>	<p> MEQFPVKVHDFPSNGTGG GSFSLNRGSQALKFFNTHQ LKCQLQRHPDCANVKQWK GGPVKIDPLALVQAIERYLV VRGYGRVREDEDESDDDG SDEEIDSLAAQFLNSGNV RHRLFYIGEHLPPYNTV YQAVRQFSIAEERESTD DESNPLGRAGIWTHTIWI YKPVREDEESNKDCVGGK RGRAQTAPTKTSPRNAKK HDELWHDGVCPSVSNPLE VYLIPTPENITFEDPSLDVI LLRLVLHAISRYWYLYDNA MCKEIPTSEFINSKLTAKAN RQLQDPLVIMTGNIPTWLT ELGKTCFFFFFDTRQMLF YVTAFRDRAMQRLDNTNP EINQSDSQDSRVAPRLDRK KRTVNREELLKQAESVMQ DLGSSRAMLEIQYENEVGT GLGPTLEFYALVSQELQRA DLGLWRGEEVTLSPKGS QEGTKYIQNLQGLFALPFG RTAKPAHIAKVMMKFRFLG KLMAKAIMDFRLVDLPLGLP FYKWMMLRQETSLSHDLFD IDPVVARSVYHLEDIVRQK RLEQDKSQTKESLQYALE LTMNGCSVEDLGLDFTLPG FPNIELKGGKDIPVTIHNLE EYLRVIFWALNEGVSQRQ DSFRDGFESVFPLSHLQYF YPEELDQLCGSKADTWD AKTLMCECRPDHGYTHDS RAVKELFEILSSFDNEQQR FLQFVTGSPRLPVGGFRSL NPPLTIVRKTFESTENPDDF LPSVMTVCNLYKLDPDYSSIE </p>
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Shigella ipaH9.8	6	prey67717	144	<p>GAAGGGCTTTCTAGGCAATTTGATTGCTTCAGAGATGGATTTGAATCAGTCTT CCCACTCAGTCATCTTCAGTACTTCTACCCGGAGGAACCTGGATCAGCTCCTT TGTGGCAGTAAAGCAGACACTTGGGATGCAAAAGACACTGATGGAATGCTGTA GGCCTGATCATGGTTATACATCATGACAGTCGGGCTGTGAAGTTTTTGTGTTGA GATTCAGTAGTTTTGATAATGAGCAGCAGAGGTTATTTCTCCAGTTTGTGA CTGGTAGCCCAAGATTGCCGTTGGAGGATTCGGAGTTTGAATCCACCTTT GACAAATTGTCGAAAGACGTTTGAATCAACAGAAAACCCAGATGACTTCTTG CCCTCTGTAATGACTTGTGTAACATCTTAAAGTTGCCGACTATTCGAAGCAT TGAGATAATGCGTGAAAACCTGTTGATAGCAGCAAGAGAGGCGCAGCAGTC GTTCCATCTTTCCTGA</p> <p>GCGGGACATCCAGTATTGGGCTCACGTGCATAAGACTGTCCCAGACAGCAG CACAAATCACGTTTACGCCAAGTGAGTTTCCGACGCACCTGTGTGGCAGCCG CGTGAATGTAGCCGATATGACGTGGAGGGTTGTGGCCCTCTCTGCGGT GAGGGCTCTCTGCCAGGAGCTCTGAGAAAGCTCCACAGAAATCAGCCGCTG GGCTCCTTACGACGACGCTCCCTTATCTGTGCCAACGACTGGGGGCCCTAA CTCAAGGGTGCCAGCCGCTCTCCGCCAATACAGACTGTGGGATCTTGAGA GTTAGGAGCCTGGGTCCTGGGTGGGTGGTGGTGGTGGTGGTGGTGGTGGTGG GCTCTGTAGCCTGTTCCCATGCTCCCTGACTCACCCCAATCCCTGGGTGA GGACAGAGCTCTGAAGGCCACTGAAGGAGGTGCAGCACACTCCACCTGG GTGGCCTCCGCGAGCTCAGCCCTCTTCTGCCAGCAGGAAGCCTCTGCCTG CGCTCCTTAAGTTAGCCATCCTCACCCCTCCGGGCGACTGTGAGACTGAG CCAGGGCCACTAGCAGCACCCAGACCTCGACCCCTTCTCAGACCGAGGCGC ACCACCCAGGCGGAGGAGGCAAGGAGGGAAGACCAAGTCTAGAGGACT GTCTTGGTGGCCCTGGCGAGTCTTGAACCTTGGTGCCATCATCTGCAAAAG GGAGGAAAGAAATGCCTGCGTGGTGAGCTACGTACGTATCGACAGTGAAGACC CGCATGGTGGGACGCTGGCACTTAAACAATGGTAGCATTTTGGCCGGCGCG GTGGCTCAGCCTGTAATCCAGCACTTTGGAGGCCGAGGCGGGCGGCGGAT CACGAGTTCAGGAGATCAAGACCATCCCGGCTAAACGGTGAACCCCGCTC TCTACTAAAATACAAAATAGCCGGGCTAGTGCGGGGCGCTGTAGTC CCAGCTACTGGGAGGCTGAGGCGAGGAGATGGTGTGAACCCCGGGAGCGG GAGCTTGAGTGAGCGAGATCCCGCCACTGCATCCAGCCTGGGCGACA GAGCGAGACTCCGTCTCAAAAAAAGAGGAGGAGGAGGAGGAGGAGGAGGAGG AGTGCCGAGGAGGAGGAGGAGGAGGAGGAGGAGGAGGAGGAGGAGGAGGAGG CCCAAGCCTATACACAGGAGAGGAGGAGGAGGAGGAGGAGGAGGAGGAGGAGG ACTTGTGGCCAAAGTCAAGAAAGTAAAGTCTGTGTCCAGCGAGGTGGCTCAT CCCTGTAATCCAGTGTCTTGGGAGGCCGAGCGGGGGGGGGGGTGGATCA CTTGAGGTCAGGGGTTTGAGACCGAGCCGACCAACATGGTGAACCCCGCTC TCTACTAAGAAATATAAAATAGCCGGGCGTGGTGGCGCTGCTGTAATCT CAGCTGCTTGGGAGGCTGAGGCGAGGAGGAGGAGGAGGAGGAGGAGGAGGAGG</p>	<p>IMREKLLIAAREGQQSFHLS * AGHPVLGSRA*DCPRQKH NHVQPSGVSDALVWQPRE CEPICSWEGLWASCGEGL LPGALRSLHRISRRAPSAA APLICANDWGNPSRVPARL PPIQTVGF*ELGAWGPLGW GGGGEQVGSVSLFPHALT HPNPWVRTELLKATEGGA AHSTWVAFRSSALFLPAGS LCLRLSL*PSSPPPGSSETE PGPLAAPRRPRFSDRGATT PGRGKEGRPKSRGLSW WPWASLELWCHHLQKGG KNACVVQLRGYAVKTRMV GRALNNGSIWPGAVAHAC NPSTLGGRRGTRISGDQ DHPG*NGETPSLLKIQKISR A*WRAPVVPATWEAEAGE WCEPGRRLQ*AEIPLHS SLGDRARLRLKKKKNNNGS IVFSAQEEGSDRERATTP HPSLYNRRATFSSEQDRL VAKSRK*GLVPAARWLIPVIP VLWEAEAGAGWIT*GQGF TSPTNMVKPRLY*EYKN*P GVVARACNLSCLGG*GRRI A*TREAEEVAVSRDRAATTVQ PGGSVRLGL</p>
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Shigella ipaH9.8	6	prey700	145	AGTTGACGTGAGCCGAGATCGAGCCACTACTGTCCAGCCCGCGGCAGT GTGAGGCTCGGTCTC	346	MGGLSAQGVNMNRLPGW DKHSYGYHGGDDGHSCSS GTGQPYGPTFTTGDVIGCC VNLINNTCFYTKNGHSLGIA FTDLPPNLYPTVGLQTPGE VVDANFGQHPFVFDIEDYM REWRTKIQAQIDRFPIDGR EGEWQTMIQKMWSSYLVA HGYCATAE
Shigella ipaH9.8	6	prey67718	146	ATGGGTGATTATTTCTCGATGGAGGACAAACCTTCAACTGTAGAAAGTTCT AGAAAGTATAGATAAGGAAATCAAGCATTGGAAGAAATTAGGGAAGAAATC AGAGATTACAAAAATATGGGTGGAAGATTAACTCTGATTCCTCAGTTCTC TATCTGTTACATGCTTAATTGTATATTGIGGTATCTTCTGTGATGAATTTACA GCAAGACTTGCCATGACACTCCCAATTTTCTGTTTCCATGATCATCTGGAG CATAAGAACAGTAATTTCTTCTTTTCCAGAGAACAGAAAGAAATATGA AGCATTGGATGATTTAAATCCAGAGGAAAAAATACTTGAAGAAAGTCATGG AAAAAGAACTTACAAGACG	347	MGGLFSRWRTKPTSTVEVL ESIDKEIQALEEFREKNQRL QKLWVGRLLYSSVLYLFTC LIVLYWLPDEFTARLAMTL PFFAFPLIWSIRTVIIFFSK RTERNNEALDDLKSQRKKI LEEVMEKETYKT
Shigella ipaH9.8	6	prey2530	147	ATGGGCGACAAAGGACCCGAGTGTTCAAGAAAGGCCAGTCCAAATGGAAAG CTCACCGTCTACCTGGGAAAGCGGACCTTTGTGGACACATCGACCTCGTG GACCTGTGGATGGTGGTCTGTGGATCCTGAGTATCTCAAAGACGG AGAGTCTATGTGACGCTGACCTGCGCTTCCGCTATGGCCGGAGGACCTG GATGCTTGGGCTGACCTTTCGCAAGGACCTGTTGTGGCCACGTACAGT CGTCCACCGGCCCCGAGGACAAAGAACCCCTGACGCGGCTGCAGGAA CGCTCATCAAGAAAGCTGGGCGAGCAGCTTACCTTTACCTTTGAGATCC CTCAAACCTTCCATGTTCTGTGACACTGACCGCGGGGCCGGAAGACACGG GGAAGGCTTGGGTGTGACTATGAAGTCAAAGCCTTCTGCGCGGAGAATT TGGAGGAGAAGATCCACAAGCGGAATTCTGTGCGTCTGGTCTATCCGGAAG TTCAGTATGCCCCAGAGGCGCTGGCCCCAGCCACAGCCGAGACCCACCA GGCAGTTCCCTCATGTGCGACAAGCCCTTGCACCTAGAAAGCCTCTCTGGATAA GGAGATCTATTACCATGGAGAACCCTCAGGTCAAGTCAAGTCAAGTCAAGTCAAG AACACCAACAAAGACGGTGAAGAAGATCAAGATCTCAGTGCAGTCAAGTCAAG GACATCTGCCCTTTTCAACACAGCTCAGTCAAGTGCCTGTTGCCATGGAAG AGGCTGATGACACTGTGGCACCAGCTCAGCTGCTGTGCAAGGTCTACACAC TGACCCCTTCTAGCCAAATAACCGAGAGAAAGCGGGCCTCGCCTTGGACG GGAAGCTCAAGCACGAAGACACGAACTTGGCCTCTAGCACCTGTTGAGGG AAGGTGCCAACCGTGAGATCCTGGGATCATTTCTTCTACAAAGTGAAGT	348	MGDKGTRVFKKASPNGL TVYLGKRDVFDHIDLVDPV DGVVLVDPEYLKERRVYV LTCAFRYGREDLDVLGLTF RKDLFVANVQSFPPAPEDK KPLTRLQERLIKLGHEHAYP FTFEIPPNLPCSVTLQPGPE DTGKACGVDYEVKAFCAE NLEEKIHKRNSVRLVIRKVQ YAPERPGPQPTAETTRQFI MSDKPLHLEASLDKEIYYH GEPISVNVHVTNNTNKTVK KIKISVRQYADICLNTAQY KCPVAMEEADDTVAPSSTF CKVYTLTPFLANNREKRL ALDGKLKHEDTNLASSTLL REGANREILGIIVSYKVVK LVVSRGGLGLDASSDVAV ELPFTLMHPKPKKEPPHRE

Shigella ipaH9.8	6	prey67731	148	GAAGCTGGTGGTCTCGGGGGCGGCTGTTGGGAGATCTTGCATCCAGCGA CGTGGCCGTGGAAGTCCCTTACCCTAATGCACCCCAAGCCCAAGAGGA ACCCCGCATCGGGAAGTCCAGAGAACGAGACGCCAGTAGATACCAATCT CATAGAACTTGACACAAATGATGACGACATTTGTTGAGGACTTGTCTGCC AGAGACTGAAAGGCATGAAGGATGACAAGGAGGAAGAGGAGGATGTTACCG GCTCTCCACAGCTCAACACAGATAG		VPENETPVDNLTDLND DIVFEDFARQLKGMKDDK EEEEGTGSPQLNRR*
Shigella ipaH9.8	6	prey67731	148	ATGTCATAGCAGGAGTGTGCTCAGGAGATCAGAGTCCCATTAATAACTG GATTTCTACATAATGGCCGAGCCATGGGGAATATGAGGAAGACCTACTGGAG CAGTGCAGTGAGTTTAAACAACTTTTAAATATGACCCGATAACCATGG CCTACAGTCTGAACCTCTCTGCTCAGGAGCGCTAATACCACTTGGCATGC TTCCAAATCTGCTCGATGAATGGCCACTGCTTGCAGAAATGGTCCATCT CAAAAGTCCAGTTCGCCCTCTTCTTATCCCCCAAGTGAACCTGGGAC CACATGAAGAGGATCAAGTTGATGTGTTTAAAGAACTCACAGTGAATGG GGTTGTGCTCCACCCCTCCACTGACACCCATAAAACCTCCCTTCCCTTT TCCCTGTGCCCTCTTGTGAACGGGTTCTAGGCTCTTCCACCGTGGC AATCTGAAGCCCTCTCTGGATGACACAGAGTGTGAGGTGGAATTCCTA ACTAGCTCAGATACAGACTTCTTTTAAAGACCTACACTTCTGATTTCAA ATATGATGTTCTGGCAGGGGAAGTCCGTTGGGTGGACAAATCAACTAT GCATATTTGATACCCAGCTGTTCTGCAGCAGATCTCAGCTATGTCTGA CCAAATGGAGGTGCCAGATCCAAATCCTCCTCCACCTCAGACCCACCGA AGATTGAAGAGTCTATTGGGACCAGCTGGCTCTTTAACAAGCCAGCCA TAAGGATATCCAACTGTTATACACAGAGTCTCCTAAGTCCGATGAAGAC AACTGAGGTTCCCCCAGAGTCCCATACCTCCTAGACCACTAAGCCAG ATTATGAAGATGTCAGCAGAACTTACTTCGAGCACCTATAGTGAAGA CAGGCTCCCAAGTACCGCCAGAGAACCTTTGTACCCGAGTAACTCGCG CACACGAGTCCCAAGCTTCCGCTTACCTCAATGGGGTCTATGCCCTCC GACACAGAGCTTTCCTGATCCCAAGTATGTCAGCAGCAAGCACTGCAA AGACAGAACGCGAAGGATCTGCCAGTAAGTTCCTTGCATTTGCCCATTA TTGAAATGGGAAGAGGTTAGTTCAACACATTTTACCTACTACCTGAACGA CCACCATACCTGGACAAATATGAAAAATTTTGGGAAGCAGAGAAACAAA TGGAGGCGCCCAATCCAGCCATTACCTGCTGACTGCGGTATATCTTCAGCC ACAGAAAAGCCAGACTCAAAAAACAAAATGGATCTGGTGGCCACGTGAAG CGTAAACATTTATCTATGTGGTTCTCCTTAG		MSIAGVAAQAEIRVPLKTGFL HNGRAMGNMRKTYWSSR SEKNNFLNIDPITMAYSLN SSAQERLIPLGHASKAPM NGHCFEAENPSQKSSLPL LIPSENLGPHEDQVWCG FKKLTVNGVCASPTPLPIK NSPSLFCAPLCERGSRLP PPLPISEALSLDDTCEVEF LTSSDTDFLLEDSTLDFKY DVPGRRSFRGCGQINYAYF DTPAVSAADLSVYSDQNG GVDPNPPPPQTHRLRR SHSGPAGSFNKAIRISNC CIHRASPNSEDEKPEVPPR VPIPRPVKPDYRRWSAEV TSSTYDEDRPKVPPREP LSPNSRTPSPKSLPSYLN GVMPPTQSFAPDPKYVSS KALQRQNSEGSASKVPCIL PIIENGKKVSSSTHYLLPER PPYLDKYKFFREAEETNG GAQIQLPADCGISSATEKP DSKTKMDLGGHVKKRHL YVWSP*
Shigella ipaH9.8	6	prey7155	149	GCTCCCGGACGTCCCTGCTCCTGGCTTTTGGCCTGCTGCTGCCCTGGC TTCAAGAGGCTGGTGGCTGCTCAACCGTTCCGTTATCCAGGCTTTTGACCA CGCTATGCTCCAAAGCCCATCGCGCGCACCGCTGGCCATTGACACCTACCA GGAGTTTGAAGAAACCTATATCCAAAGGACCAAGATTTCTTCTCTGCT GACTCCAGACCTCCTTCTGCTTCTCAGACTCTATCCGACACCCCTCCAA TGGAGAAACGCAACAGAAATCCAAATCTAGAGCTGCTCCGCTATCTCCCTGCT		SRTSLLAFALLCLPWLQEA GAVQTVPLSRFLDHAMLQA HRAHQLAIDTYQEFEETIY KDQKYSFLHDSQTSFCFSD SIPTPSNMEETQQKSNLEL LRISLLIESWLEPVRLRS

Shigella ipaH9.8	6	prey1687	150	GCTCATCGAGTCGTGGAGCCCGTGGGTTCTCAGGAGTATGTTCCG CAACAACCTGGTGTATGACACCTCGGACAGCGATGACTATCACCTCCTAAAG GACCTAGAGGAAGGCATCCAAACGCTGATGGGGTGAGGGTGGCGCCAGG GGTGCCCAATCCTGGAACCCCACTGGCTTAG		MFANNLVYDTSDDYHLL KDLEEGIQTLMGVRVAPGV ANPGTPLA*
Shigella ipaH9.8	6	prey1687	150	GGAGTATGATGCAGAGCGGCCCCCAGCAAGCCTCCACCGGTTGAACCTGG GGCTGCTGCCCTTCGTGCAGAGATCACAGATGCTGAAGGCCTGGTTTGAA GCTCGAAGATCGAGAGACAGTATTAAAGGAGTTGAAGAAGTCACTCAAGATT AAGGAGAGGAGCTAAGTGAGGCCAATGTGCGGCTGAGCCTCCTGGAGAA GAAGTTGGACAGTGTGCAAGGATGCAGATGAGCGCATCGAGAAAGTCCA GACTCGCTGGAGAGACCCAGGCACTGTGCAAGAGGAGGAGAAAGAGTT TGAGGAGACAATGGATGCACTCCAGGCTGACATCGACCAAGCTGGAGGCAGA GAAGGCAGAACTAAGCAGCGCTGAACAGCCAGTCCAAACGCACGATTGA GGACTCCGGGCCCTCCTCCTTCAGGCATTGCTACTCTGGTCTCTGGCAT TGCTGGTGAAGAACAGCAGGAGGAGCCATCCTGGCAGGCTCCAGGGT CTGTGCCAGGCCAGGGCTGGTGAAGGACTCACCACTGCTGCTTCAGCAGA TCTCTGCCATGAGGCTGCACATCTCCAGCTCCAGCATGAGAACAGCATCCT CAAGGAGCCCCAGATGAAGGCATCCTTGGCATCCCTGC		EYDAERPPSKPPVELRAA ALRAEITDAEGLGLKLEDRE TVIKELKSLKIKGEELSEA NVRLSLEKKLDSAAKDAD ERIEKVQTRLEETQALLRKK EKEFEETMDALQADIDQLE AEKAEKQRLNSQSKRTIB GLRGPPPSGIATLVSGIAGE EQQRGAIPGQAPGSVPGP GLVKDSPLLQQISAMRLHI SQLQHENSILKGAQMKASL ASL
Shigella ipaH9.8	6	prey67734	151	ATGAGCCAGAGGACACGCTGGTGCATCTGTTGCCGAGGATGTGGTGGT ACAGTGGAGCTATTCTGACATGTCACCTGGAAGTTGTAAACACGACTGC AGTCATCTCTGTGACGCTTATATTTCTGAAGTTGAGTGAACACCATGGCT GGAGCCAGTGTCAACCGAGTAGTGTCTCCCGGACCTCTTATTGCCTAAAG GTGATCTTGAAAAAGAGGGCCCTGCTTCTGTTAGAGGACTAGGCCCA ATTTAGTGGGGTAGCCCCCTCCAGAGCAATATCTTGTGCTTATTCAAAC TGCAAGGAAAAAGTTGAATGATGATTTGATCTGCTGATTACCCCAAGTACATAT GATTCAGCTGCAATGGCAGGTTTTACTGCAATCACAGCAACCAACCCCAT TGGCTTATAAGACTCGGTACAGCTTGATGCAAGGAACCGCGGGGAAAGG CGAATGGTGTCTTTGAATGTGTCGTAAGTGTATCAGACAGATGGACTAA AAGGATTTATAGGGGCATGTCTGCTTCATATGCTGTTATCAGAGACTGT ATCCATTTTGTATTATGAAAGTATAAAACAAAAAAGTACTGGAATATAAGACT GCTTCTACAAATGAAAAATGGTGAAGAGTCTGTGAAGAAGCATCAGATTTTG TGGGAATGATGCTAGCTGCTGCCACCTCAAAAACCTTGCCCAACTATAGC ATATCCACATGTTGTAAAGAACAGACTACGTGAAGAGGGAACAAAAATACAGA TCCTTTTTTCAGACTCTATCTTTGCTGTTTCAAGAAGAAGGTTATGGTCTCTT TATCGTGGTCTGACAACTCATCTAGTGAGACAGATTCCAAAACAGCCATTAT GATGGCCACCTATGAATGGTGGTTTACCTACTCAATGGATAG		MSQRDTLVHLFAGGCGGT VGAILTCPLEVWKTRLOSS VTLYISEVQLNTMAGASVN RVVSPGLHCLKVILEKEG PRSLFRGLGNLVGVAPSR AIYFAAYSNCKEKLNDFD PDSTQVHMISAAMAGFTAI TATNPIWLKTRQLDARNR GERRMGAFCVVKVYQTD GLKGFYRGMASASYAGISET VIHFVYESIKQKLLEYKTAS TMENGEESVKEASDFVGM MLAAATSKTCATTIAPHVV RTRLREEGTYRSFFQTLS LLVQEEGYGSLYRGLTTHL VRQIPNTAIMMATYELVVYL LNG*
Shigella ipaH9.8	6	prey2694	152	ATGGCACACGCTATGAAAAACTCCTGGACAATCAGTAAAGAGTACCATATTG ATGAAGAAGTGGGCTTTGCTCTGCCAAATCCACAGGAAAAATCTACCTGATTTT TATAATGACTGGATGTTCAATTGCTAAACATCTGCCCTGATCTCATAGAGTCTGG CCAGCTTCGAGAAAGAGTTGAGAAGTTAAACATGCTCAGCATGATCATCTC		MAHAMENSWTISKEYHIDE EVGFALPNPQENLPDFYND WMFIAKHLPLIESGQLRE RVEKLNMLSIDHLTDHKSQ

Shigella ipaH9.8	6	prey67740	153	ACAGACCACAAAGTCACAGCGCTTGCACGCTCTAGTCTGGGATGCATCACCA TGGCATATGTGTGGGCAAGGTCTGAGATGTCGTAAGGTCTTGCCAA GAAATATTGCTGTCTTACTGCCAATCTCCAAGAACTGGAAGTGCCTCCT ATTTGGTTTATGCAGACTGTCTTGGCAACTGGAAGAAAGGATCCTAA TAAGCCCTGACTTATGAGAACATGGACGTTTGTCTCATTTCTGATGGAG ACTGCAGTAAAGGATTTCTCTGCTCTCTATTGGTGGAAATAGCAGCTGC TTCTGCAATCAAAGTAATTCCTACTGATTCAAGGCAATGCAATGCAAGAAC GGGACACTTTGCTAAAGGCGCTGTGGAATAGCTTCTGCTGGAGAAAGC CCTCAAGTGTTCACCAATCCACGATCATGTGAAC	354	XXITCXXVEIGHXDKGMVH VSLNCLTWXHXLYXVXHF *NESDLSALXXXXLXXCXC SVYXTX*XYLVXVXXXX GXGXRFXLCTXXGG	RLARLVLCITMAYVWKG HGDVRKVLPRNIAVPCQL SKKLELPILVYADCVLANW KKKDPNKPLTYENMDVLF FRDGDCKGFFLVSLVLEIA AASAIKVIPTVFKAMQME RDTLLKALLEIASCLEKALQ VFHQIHHDHVN
Shigella ipaH9.8	6	prey67703	154	GNATGNATTACNTGCNATANTGTAGAAATGGGCATNGGACAAGGGGATG GTTTCATGTATCTTAACGTCTGACATGNAACATNGTCTATACCNAGTTNG NGTGCACTTTTAAATGAATCCGATTTGTCTGCACTNNNTNCCNCTCTNCC TCNTTATGTGNGTGCAGCGTTTACNCTACTNCACTGANTGTACTTANTG GTNATCTTNCNTGCNNTTNGGNTGGNGANGGTGNTCGCTTTTNTTCTGT GTACCGNNNGGGGGG	355	AEKLLALLNTLDRWIDTP PVDQPSRFNGKAYRTWYA KLDEEAENLVATVVPHTLA AAVPEVAVYLKESVGNSTR IDYGTGHEAAFAAFLCCLC KIGVLRVDDQIAIVFKVFN YLEVMRKQKTYRMEPAG SQGVWGLDDFQFLPFIWG SSQLIDH	KLDEEAENLVATVVPHTLA AAVPEVAVYLKESVGNSTR IDYGTGHEAAFAAFLCCLC KIGVLRVDDQIAIVFKVFN YLEVMRKQKTYRMEPAG SQGVWGLDDFQFLPFIWG SSQLIDH
Shigella ipaH9.8	6	prey67741	155	GGCCATTGAGAACTACTCGCTCTTCTCAACACGCTGGACAGGTGGATTGAT GAGACTCTCCAGTGGACCAGCCCTCTCGGTTTGGGAATAAGGCATACAGG ACCTGGTATGCCAACTTATGAGGAAAGCAGAAACTTGGTGGCCACAGTG GTCCCTACCCATCTGCAGCTGCTGTGCTGAGTGGTGTTCCTTAAAG GAGTCAGTGGGAACTCCACGCGATTGACTAGCCACAGGCGCATGAGGCA GCCTTCGCTGCTTCTCTGCTCTCTGCAAGATTGGGTGCTCCGGGTG GATGACCAATAGCTATTGCTTCAAGGTGTTCAATCGTACCTTGAGGTTAT GCGGAACTCCAGAAACATACAGGATGAGCCAGCCGCGCAGCCAGGAG TGTGGGCTGTGGATGACTTCCAGTTCTGCCCCCTCATCTGGGCGAGTTCGCA GCTGATAGACCAC	356	DKLSQAKAYCNLGLAFKAL LNFSKAECEXVPTVPSV SE*FPG*ISSPRKPGRYHL* KRYKWCNKIL*AATGLSSP GKGQKIRSQCICSP	DKLSQAKAYCNLGLAFKAL LNFSKAECEXVPTVPSV SE*FPG*ISSPRKPGRYHL* KRYKWCNKIL*AATGLSSP GKGQKIRSQCICSP
Shigella ipaH9.8	6	prey67742	156	AGGTAATGGAGCTGGTGGTGGCAGCAGCCAGAAACTCCACTCTTTGAAACT TACTCGGATTGGGACAGAGAAATCAAGAGGACAGGTGCTTCGGGTGGAGA GTTTGTCTATTAAACGAGGTTACATGATATCCACTTGCCTCCAGAAATACAT TGAGTGCCAAAGTCTTTAGCAGACCAAGATCTAAAGATCTTTCCCATCTT TTGTTGGGAGAGGATGCCACTCTGGTGTGGAGCCACTCTAACGGCAGTG CTCTGTGCGAATGGCCCTCATCAAGACGCTGCTGCGAGCAGAGGAGATTG ACCAAGGATTTGTAATGCAATAACTAAAGTCAACCCACAGAGAGTATGT TTACAAATCAGATTTGGATAAGACCTTGCCTAATATTCAAGAAGTACAAGCAG	357	GNAGGGSSQKTPLFETY SDWDREIKRTGASGWRVC SINEGYMISTCLPEYIVPS SLADQDLKIFSHSFVGRM PLWCWSHNSGSAVLRMAL IKDVLQQRKIDQIRICNAITS HPQRSDVVYKSDLDKTLPI QEVQAAFVKLKQLCVNEPF	GNAGGGSSQKTPLFETY SDWDREIKRTGASGWRVC SINEGYMISTCLPEYIVPS SLADQDLKIFSHSFVGRM PLWCWSHNSGSAVLRMAL IKDVLQQRKIDQIRICNAITS HPQRSDVVYKSDLDKTLPI QEVQAAFVKLKQLCVNEPF

Shigella ipaH9.8	6	prey54430	160	AACGTTCAATTATGTTGTCACAACTGTTGCAGCTAATTGCAAAATCCAGTTAA CTTCATTGAGTGGCGTGGCAGACAGAAATTACTCAACATTTTGATAAAATC GTTCAAAGGTTCTTGATGACCAACCAATCCTCGCTTAATCAAAGATCTTCT GCAAGACCTAAGCTACCTCTGCACTTATTAGAGGAGTAGGGAAGTCT GTATTAGTGGAAACATCAATATTGGATTGCGGATTAGAACTATTCTCGC CTGGAACAACAGCTACAGGATCTTCAGATGACTAAGCAAGTGAACAATGGC CTACCTCTAGTGACCTTCTCTGCACATGCTGAACAACATCTATACCGGT TCTCAGACGGATGGACATCATCACTTAGGCCAGGTGACCCACCTTGT ATATGCTTAGTGAAGACAGACAGCTGTGGAAGAAGCTTTGTCAGTACCATTTT GCTGAAAGCAGTTTGTAGACATTTGATCCTTCAGAAAAGTTCATATTGA ATGGAAGTTGATGTTGACCTTCAGAACATTAACCCAGCAAGGAGCAG TACGGAGACACACTGCATTTCTGCGCACTGCAGCATTTCTTTTGAAGG ACTCAGACACCCCTGCACGGCGCCGACCTGACAGCTGCTTCACGCCGTG TGCTCCGACGACTTCATCGACCTCTTCAAGTTTAA	VKLQLIAKSLTSLSGVAQ KNYFNILDKIVQKVLDDHNN PRLKDLLQDLSSLTCLIRG VGKSVLVGNINWICRLETIL AWQQQLQDLQMTKQVNN GLTSLDLPLHMLNNILYRFS DGWDITLQGVPTLYMLSE DRQLWKLCQYHFAEKQF CRHLSEKGHIEWKLMYFA LQKHYPAGEYGDTHFCR HCSILFWKDSGHPCTAADP DSCFTPVSPQHFDLKF*
Shigella ipaH9.8	6	prey67749	161	GCTGTCCAAACCAACAGGACCCCTCTTTATATTGGTGTACAAAAGTATATTG CAGGACCCCTATGAATGTGAATACGGAACCCAGTGAGTGCCAGCCGCGAGTG ACCCAGTACCCCTGAATCTCTCATGTTCCAGACCTCCCGACGATTTACCC TTCATTCACCTATTACCGTTTCAGGAGAAACCTCTACTTGTCTGCTTCGCCG AGCTAACCCACGGGCAACAATATTCTTGACAATTAATGGGAAGTTTCAGCT ATCAGGACAAAAGCTCTCTATCCCCCAATAACTACAAAGCATAGTGGGCTC TATGCTTGTCTGTTCGTAACCTCAGCCACTGGCAAGGAAAGCTCCAAATCCA TCACAGTCAAAGTCTGACTGTGATATTACCCCTGA	LSKTNRTLFIKGVTKYIAGP YECEIRNPVSASRSDPVTL NLLHGPDLPSIYPSFTYRYS GENLYSCFAESNPRQAQYS WTINGKFQLSGQKLSIPQIT TKHSGLYACSVRNSATGKE SSKSITVKVSDWILP*
Shigella ipaH9.8	6	prey67751	162	AAGAAATTAAGTATATTGAGAAATTTGGAATAATGTTAAACTGAAGTACTG AATCTCAGCTATAATCTAATAGGAAGATTGAAAGTTGGACAAGCTGTTAAA ATTACGTGAACCTCAACTTATCATATAACAAATCAGCAAAATTTGAAGGCATAG AAAATATGTGTAATCTGCAAAAGCTTAACCTTCAGGAAATGAAATTTGAGCAT ATTCCAGTATGTTAGGGAAGATTAAATCTTTGCGAGTCTCA	KFKYIENLEKCVKLEVLNL SYNLIGKIEKLDKLLKRELN LSYNKISKIEGIENMCNLQK LNLAGNEIEHIPVWLKGLK SLRVL
Shigella ipaH9.8	6	prey8739	163	GGAGGCAGAGCAAGACACTGTCTCTTAAAAAGGAAGAAACTCGACAAG AATCCTAGTGGGAGAGGCAGGACCATCTCTGTATGGGTCAATAATGACCCA GTCAATGGAGCACAGTGTATGAGGAAAAAGGGTTGTAGTCCAGGAAGGCC AGTTTCGAACAACGTGGCAAGGGAAGCAGGCTGTGAGAACGGGCCCTCTG AGCCGGAACGTGAGGAGGAGTTGAGCCTGGGGCTCTCTGGGGGTGCAGTG TTCCANGTGGGGGA	GGRARHCLLKGKKTROE S*WERQDHPVMGQ**PSHG AQ*CRKRGCECQEGQFRT TWQKGQACENGPSEPELR EELSGLSGGAVFXVG
Shigella ipaH9.8	6	prey8739	163	GGCTGAGCCACCCGCTCCCTCACCTCTGCCACTGGCCTCATCCCCTGAATC AGCCCGACCCCAAGCCCCGTGCCGGCCCCCTGAAGAAGGTGAAGATACCC GTCCCTCCTCGCCTCAAGAAATGGAAGGAGTGCCTGGAAGCGCTTCGGC TGCTGCTGACCATCCAGAGGCGAGTGGACGGCAGGAGGATGAGCGGGAA GTGGCAGAGTTTATGAGCAGCTTGGCAGACCTTGCACCTGACAAAGTA CCGCGAGACATGCGTCTGCTGTTTCTGTCATGAGGAGGTTGACGGGGCC	AEPVPSPPLASSPESAR PKPRARPEEGEDTRPRL KKWKGVWRKRLRLTIQK GSGRQEDEREVAEFMEQL GTALRPDKVPRDMRRCCF CHEEGDGTGPARLLNL

Shigella ipaH9.8	6	prey18232	164	ACTGATGGGCGCTGCCGCTGCTGCTGAACCTGACCTGGACCTGGACCTGGTGGTGAC CTCAACTGTGCCCTTTGGTCCACGGAGGTGTATGAGACCCAGGCGGAGCA CTGATGAATGTGGAGGTGGCTGCACCGAGGACTGCTAACCAAGTGTCTCC CTGTGCCAGCGAACTGGTCCACAGAGCTGCAATCGCATGCGTTGCCCC AATGCTACCATTTTGGTGTGCCATCCGCGCAAGTGCATGTTCTTCAAGG ACAAGACCATGCTGTGCTCAATGCATAAGATCAAGGGGCGCTGTGAGCAAG AGCTGAGCTCTTTGCTGCTTCCGGCGGG	365	SDMMLNIINSSITTKAISRW SSLACNIALDAVKMVQFEE NGRKEIDIKKYARVEKIPGG IIEDSCVLGRVMINKDVTHP RMRYIKNPRIVLLDSSLEY KKGGSQTDIEITREEDFTRI LQMEEEYIQQLCEDIQLKP DVITEKGISDLAQHYLMRA NITAIRVRKTDNNRIARAC GARIVSRPEELREDDVGTG AGLLEIKKIGDEYFTFIDCK DPK	DLDLVHLCALWSTEVY ETQGGALMNVVALHRLGL TKCSLCQRTGATSSCNRM RCPNVYHFGCAIRAKCMFF KDKTMLCPMHKIKGPCEQE LSSFAVFR
Shigella ipaH9.8	6	prey66739	165	CAGTGATATGATGCTGAACATCATCAACAGCTCTATTACTACCAAGGCCATCA GCCGGTGGTGCATCTTTGGCTTGCAACATGGCTGGATGCTGTCAGATGGT ACAGTTTGAGGAGAAATGGTCGGAAGAGATTGACATAAAAAAATATGAAGA GTGGAAGAAGATACCTGGAGGCATCATTGAAGACTCCTGTGCTTGGTGGAG TCATGATTAAACAAGGATGTGACCCATCCACGTATCGGCGCTATATCAAGAA CCCTCGCATTTGCTGCTGGATTCTTCTCTGGAATACAAGAAAGGAGGAAGC CAGACTGACATTGAGATTACAGGAGAGGAGACTTCACCCGAATCTCCAGA TGGAGGAAGAGTACATCCAGCAGCTCTGTGAGGACATTATCCAACCTGAAGCC CGATGTGGTCACTACTGAAAGGGCATCTCAGATTAGCTCAGCACTACCTT ATGCGGGCCAAATACACAGCCATCCGAGAGTCCGGAAGACAGACAATAAT CGCATTTGCTAGAGCTGTGGGCGCGGATAGTCAGCCGACCCAGAGGAAGT AGAGAAGATGATGTTGGAACAGAGCAGGCGCTGTTGGAAATCAAGAAAAATTG GAGATGAATACTTTACTTTCATCACTGACTGCAAGACCCCAAGGC ATGGACGACAAGGAGTTAATTGAATACCTTAAGTCTCAGATGAAAGAGATCC TGACATGGCTCAGCAGTGGTGCATCCGACGTTGCTGGAGTCTTGAA GAGAGATAAGGGGAGAGACAATCCAGGCTGTGAGGCGAATCTCACCAGTGC CATAGAAACCTGTGTGGTGTGAGACTCCTCTGTGGCAGTGTCTCTGCGGG GGAGCTCTTCTCCGCTTCATCAGTCTTGCCTCCCTGGAATACTCCGATTAC TCCAAATGTAAAAGATCATGATTGAGCGGGGAGAACTTTTCTCAGGAGAA TATCACTGTCAAGAAACAAATTCAGATCTGTGCCATACCTTCATCAAGAT GGAGCGACAATATTGACTCACGCTACTCCAGAGTGTCTGAGAGTCTCTG GAAGCAGCGGTGGCGGCCAAGAGCGGATTTAGTGTATACGTACAGAGTCA CAGCTGATTTGTGAGGTAAAGAAATGGCCAAAGCCCTCTGCCACCTCAACG TCCCTGTCACTGTGGTGTAGTGTGCTGCTGCGGTACATCATGGAGAAAGC AGATCTTGTATAGTTGGTGTGAGGAGTTGTTGAAACGGGAGAAATTATT AACAAAGATTGGAACCAACCCAGATGGCTGTGTGTCGCAAGACAGACAAC CTTCTATGTGTTGAGAAAGTTTCAAGTTTGTCCGGCTCTTCCACTAAAC CAGCAAGACGTCCTCAGATAAGTTAAGTATAAGGCGAGACACTCTCAAGGTG CGCAGACTGGACAAGACCTCAAGAGGAGGAGCATCCGTGGTGGTGGACTACACTG CCCCCTCCCTTAATCACTCTGCTGTTTACAGACCTGGG	366	MDDKELIEYFKSQMKEDPD MASAVAAIIRLTLEFLKRDKG ETIQGLRANLTSAIETLCGV DSSVAVSSGGELFLRFISLA SLEYSYDYSKCKKIMIERGEL FLRRISLRNKIADLCHTFIK DGATILTHAYSRWLRLVLEA AVAAKRFVSYYVTESQPD SGKKMAKALCHLNPVTVV LDAAVGYIMEKADLVVGA GVVENGGINKIGTNQMAV CAKAKNPFYVVAESFKFV RLPLNQDQVPDKFYKAD TLKVAQTGQDLKEEHPWV DYTAPSLITLLFTDL	DLDLVHLCALWSTEVY ETQGGALMNVVALHRLGL TKCSLCQRTGATSSCNRM RCPNVYHFGCAIRAKCMFF KDKTMLCPMHKIKGPCEQE LSSFAVFR
Shigella ipaH9.8	6	prey67769	166	GCAGCCTTCAAGGTCGCCACGCCGATTCCTGTATGCTGTCTCCGAGGGG CAGAACGTCACCCCTCACCTGCAGGCTCTTGGGCCCTGTGGACAAAGGGCAC	367	AAFKVATPYSLYVCPEGQN VTLTCRLLGPVDKGHDVTF	

Shigella ipaH9.8	6	prey13613	167	GATGTGACCTTCTACAAGACGTGGTACCGCAGCTCGAGGGCGGAGGTGCAG ACCTGCTCAGAGCGCGGCCCATCCGCAACCTCACGTTCCAGGACCTTAC CTGCACCATGAGGCGCCAGGCTGCCAACACCCAGCCACGACCTGGCTCAG CGCCACGGCTGAGTGGCTCCGACCCACCATGGCAACTTCTCCATCAC ATGCGCAACCTGACCTGCTGGATAGCGGCTCTACTGCTGCTGGTGGTG GAGATCAGGCACCACTCGGAGCACAGGTCATGGTGCCATGGAGCTG CAGGTGCAGACAGGCAAGATGCACCATCCAACTGTGTGTACCCATCC TCCTCCAGGATAGTGAACATCAGGCTGAGCCCTGGCTACGGGTGCC TGATCGTAGGAATCCTGCTGCCCTCCCTCATCTGCTCCTGGTCTACAAGC AAAGCAGGCGCCTCCAA	368	YKTYRSSRGEVQTCSE RPIRNLTFQDLHLHHGGHQ AANTSHDLAQRHGLASD HHGNFSITMRNLTLDSGL YCCLVVEIRHHHSEHRVHG AMELQVQTKDAPSNV YPSSSQDSENITAAALATG ACIVGILCLPLILLVYKQRO AAS
Shigella ipaH9.8	6	prey3337	168	CCTTGGAGCTGGTCTTTCAGCCATATGATAAAATTAAGCTCTCTCC CTCCTGATCCACCTCGTCTGGAATGTGTTGCCCTTAGCCACCAACCTTAA GCTGAAATGGGAGAAGAACTCCAAAGACATTTGCAACCGATTCTATTGAG TACCACCTTCAGATGAGGATAAGAAATGACGGTTTGTATCCCTATACAGAG GACCATGTATACATACAAAGTACAAAGACTTAATGAGTCAACATCCTATAA TTCTGATTCAAGCTTGAATGAAGCTGGGAGGTCCCTCTCCCAAGAAAT ATATTTCACTACTCCAAATCTGCCAGCTGCTTGAAGCCCAAAATA GAGAAAGTAAATGATACATTTGTGAAATTACATGGAGTGTTCACAGCCAAT GAAAGGTATCCAGTTATTTACAGTCTTCAAGTTATTTGGGAAAGATTGAG AATTCAACAGATTTACAAGGTCCGACTCTTCTTCCGGTATCCAGCCTT CAGCTGAACTGTGAATATCGCTTCCGTGTATGTCATTCGCTC GGCTCGGCTGAAGGACCTGGAGGCTCTGCTGAACCTCAAGGAGCGCGCAC TGAGCACTGCTCTCAGTGAGAGCGCACGCTGGAGGCGAGCTGCATGATC TGCGGGGCCAGGTGGCCAAAGCTTGAGCGAGCCCTAGGTGAGGCCAAGAAAG CAACTTCAGGATGAGATGCTGCGGCGGTGGATGCTGAGAACAGGCTGCAG ACCATGAAGGAGGAACTGGACTTCCAGAAAGACATCTACAGTGAGGAGCTG CGTGAGACCAAGCGCGCTCATGAGACCCGACTGGTGGAGATTGACAAATGGG AAGCAGCGTGAGTTGAGAGCGGCTGGCGGATGCGCTGCAGGAATGCGG GGCCAGCATGAGGACCAAGTGGAGCAGTATAAGAGGAGCTGGAGAAAG CTTATTGCGCAAGCTGGACAATGCCAGGCTGCTGAGAGGAAACAGCA ACCTGGTGGGGCTGCCACGAGGAGCTGCAGAGCTCGCGCATCCGCTC GACAGCTCTCTGCCAGCTCAGCCAGCTCCAGAGCAGCTGCAGCCCAAG GAGCGGAAGCTTCGAGACCTGGAGGACTCACTGGCCCGTGGCGGGGACAC CAGCGGGCGGCTGCTGGCGGAAAGGAGCGGAGATGGCCGAGATGCGG GCAAGGATGCAGCAGCAGCTGGAGGAGTACAGGAGCTTCTGGACATCAAG CTGGCCCTGGACATGGAGATCCAGCCCTACCGCAAGCTCTTGGAGGGCAG GAGGAGGAGCTACGCTGTCCCGCAGCCCTACCTCGCAGCGCAGCGCTGG CCGTGCTTCTCTCACTCATCCAGACACAGGTTGGGGCAGCGTCAACAA AAAGCGCAACTGGAGTCCACTGAGAGCGCGCAGCAGCTTCTCAGCAGCAGC	369	ARLKDLEALLNSKEAALSTA LSEKRTLEGELHDLRGQVA KLEAALGEAKKQLODEMLR RVDANRLQTMKEELDFQ KNYSEELRETARRHETRLV EIDNGKQREFESRLADALQ ELRAQHEDQVEQYKKELE TYSAKLDNARQSAERNL VGAHEELQQSRIRIDSLA QLSQLQKLAKEAKRLDL EDSLAREDTSRRLAEKE REMAEMRARMQQQLDEY QELLDIKALDMEIHAYRKL LEGEERLRLSPSTQSR RGRASSHSSQTQGGSVT KKRKLESTERSFSQSHAR TSGRVAVEEVDEEGKFVRL RNKSNEDQSMGNWQIKRQ

Shigella ipaH9.8	6	prey67774	169	ACGCACTAGCGGGCGCTGGCCGCTGAGGAGGTGGATGAGGAGGGAAGT TTGTCCGGCTGCGCAACAAGTCCAAATGAGGACCAAGTCCATGGCAATTGGC AGATCAAGCGCCAGAAATGAGATGATCCCTTGTGACTTACCGGTTCCACCC AAAGTTACCCCTGAAGGCTGGCAGGTGGTACGATCTGGCTGCAGGAGC TGGGGCCACCCACAGCCCCCTACCGACCTGGTGGAGGACACAGAACA CCTGGGCTGCGGAACAGCCTGCGTACGGCTCTCATCAACTCCACTGGGG AAGAAGTGGCCATCGCAAGCTGGTGGCTCAGTGACTGTGGTTGAGGACG ACGAGGATGAGGATGGAGATGACCTGCTCCATCACCACCATGTGAGTGGTA GCCGCGGCTGA	370	NGDDPLLTYRFPKFTLKA GQVWIWAAGAGATHSPPT DLVWKAQNTWGCNSLRT ALINSTGEEVAMRKLVRV TVEDDEDEGDGDDLLHHH HVGSR* PPGRSLKFSGVYGPICQ RPSTNELPLDFPVKEVFEL LGVENVFQLFTCALLEFQIL LYSQHYQRLMTVAETITAL MFPFQWQHVVPILPASLL HFLDAPVPYLMGLHNSGLD DRSKLELPQEANLCFVDID NHFIELPEDLPQFPNKLEFV QEVSEILMAFGIPPEGNLHC SESASKLRLRASELVSDK RNGNIAGSPLHSYELLKEN ETIARLQALVKRTGSLEKL EVREDPSSNKDLKVQCDE EELRIYQLNIQIREVFANRFT QMFADYEVFVIQPSQDKES WFTNREQMQNFDKASFLS DQPEPYLPFLSRFLETQMF ASFIDNKIMCHDDDDKDPV LRVFDNRVVKIRLLNVRTPT LRTSMYQKCTTVDEAEKAI ELRLAKIDHTAIHPHLLDMKI GQKGYEPGFPKQLQSDVLS TGPAENKWTNRNAPAQWIR RKDRQKHTEHLRLDNDQ REKYIQEARTMGSTIRQ
Shigella ipaH9.8	6	prey67776	170	CCACCTCCTGGCCGGTCTTGAAGTTTCTGGGCTCTATGGCCAAATAATC TGCCAGAGACCAAGTACCAATGAGCTTCCCTATTGACTTTCCTGTCAAAG AGGTTTTTGAAGTCTCGGGGTGGAGAAATGTTTACGCTTTTACTGTGC CCTCTGGAGTTTCAAATCCTGCTCTACTACAGCATTACCAGAGCATGATGA CTGTGGCGGAGACGATTACAGCTCTCATGTTCTTCCAGTGGCAGCATGT CTATGCTCCTATTCTCCAGCTTCTCTCTGCTATTTCTTAGATGCTCTGTTCC CATACCTGATGGTTTGATCCCAATGCGCTGGATGACCGGTCAAAGCTGGA GCTGCTCAAGAGGCTAACCTCTGCTTGTGGACATTGACACCACTTCATT GAGTTGCCAGAGGACTGCCACAGTTGCCAACAAATGGAGTTTGTCCAGG AAGTCTCTGAGATTCTCATGGCATTTGGAATCCCCCTGAAGGAAATCTTCAT TGCACTGAGAGTGCTCCAAAGCTGAAGAGGCTCGGGCTCTGAGCTTGTC TCGACAAAGAGGAATGGGAACATTGCTGGCTCCCCCTTGCATTCCTACGAGC TTCTTAAGGAGAAATGAACTATTGCCGGCTGCAAGCCTTGGTCAAGAGAAC TGGGGTGAGCCTGGAAAAGTTGGAAGTGGTGAAGACCCAGCAAGCAATAA GGATCTCAAAGTTCAAGTGATGAAGAAGAACTCAGGATTTACCAGCTAAC ATTCAGATCCGGGAAGTTTGAATCGTTTCACTCAGATGTTTGCAGATTA TGAGGTGTTTGTATCCAAACCCAGCCAGGATAAGGAATCCTGGTTTACCAAC AGGAGCAAAATGCAAACTTTGATAAAGCATCTTTCTGTCAGATCAGCCTGA GCCCTACCTGCCCTCCTCTCAAGATTCTGGAGACCCAGATGTTTGCATCT TTCATTGACAAACAAATAATGTGTATGATGATGATGATAAAGACCCCTGACT CCGGGTATTTGATCCCGAGTTGACAAGATCAGGCTGTTGAATGTTCCGGACA CCTACTCTCCGTACATCCATGATACCAAGAGTGTACCACTGTGGATGAAGCAG AGAAAGCAATTGAGCTGCGTCTGGCAAAATTTGACCATCTGCAATTCACCC ACATTTACTTGACATGAAGATTGGACAAGGGAAATATGAGCCGGCTTCTTC CCTAAGCTGCAGTCTGATGTTTCTTCCACTGGCCAGCCAGCAACAAAGTGA CGAAAAGGAATGCCCTGCCAGTGAGGCGGAAAGATCGGCAGAGCAG CACACAGAACACCTGCGTTTAGATAATGACAGAGGGAGAGATACATCCAGG AAGCCAGGACTATGGCAGCACTATCCGCCAG	371	WDSTKISKAYYKAMVISTW CYWLRKRHLMHETDSRVP

Shigella ipaH9.8	6	prey4758	171	GTACCTGTGAGTTTATTATTGATACAAGTGCCATTTCAAATCAGCAAGGAA TTGGGCCAATTTGTTATCCATTTTGAAACATATNAAGTTTGATNCCTACNTG ACAACTGCTNCTNAAATGGGTGGAGGTGGATNGGNCATGTGGGTGTNANG CGGTGNNGGCGG		VSLFDTSAISNQGNWAN LLSILKTYXV*XLXDNVLXN GWEVDXXCGCXAVXA
Shigella ipaH9.8	6	prey67781	172	GCTCAGTGCTCTGGAGTCCACGGTGCTCCAGCCAGCCTCCACCTGTGGG CACCTCAGCCATCCACATGAGCCTGCTTGAGATGAGCGGAGCGTGGCGGA ACTCAGGCTCCAGCTCCAGAGATGCGGAGCTCCAGCTGACGAACCCAGGA GTTGCTGAGGGCAATGATGAAGAAGGCCGAGCTGGAATCAGTGGCAAAGT GATGAAACAATGAAGAGACTGAGGATCCCGTGAGCGACAGCGCTCCT AGTGAGCAAGAGAGACAAAATATCTTCATGAGGAAGAGAATCGTCAAG AAGTTGTGCGAGTTGAAGACTTTGTTGAAGACTTGAAGAAGGACTCCACGG CAGCCAGCCGATTGTTACTCTGAAGACGTGGAAGACGGGCTTTCCTCC TGCGTCAAGTGGGAGAGCTGTAGTACCTGAAAGGAGAAATTCACACCTT ACAAACAAGATGCGAGCCATCTCGGCATAGAAGTGAGGCGGTGCGGTT TCTGAAGGAGGAGCCACACAAAGCTGGACAGTCTCCTGAAGCGTGTGCGCAG CATGACAGACGTCCTGACCATGCTGCGGAGACATGTCACGTGAGGCTCCT GAAAGGCACGGACGCGACCCCAAGCCGACAGTACATGGCTATGGAAGAGG CACAGCCGAGAAGTCTGAAGAGTCAGGAGGAGGAGCCACACCTCCG GCCAGCCCTCCACAGCACAGGTGCCCTGGCGATGCGAAGTCGGAAGTG GTGCTTTGTCCGGCATGATGTTGCCACGCGCAGAGCTCCCTGTGGTC ATCCAGCCCTCCAGCACTCCGTGGCCCTGCTGAACCCCTGCTCAGAACTTG CCTCAGTGGCCAGCTCCCGAGCGCTC		LRTNHIGWVQEFLEENRG LDVLEYLAFACQSVTYDM ESTDNGASNSEKNKPLEQS VEDLSKGPSSVPKSRHLTI KLTPAHSRKALR
Shigella ipaH9.8	6	prey2109	173	GACTAAGGATCACCATTACTTTAAGTACTGCAAAATCTCAGCATTGGCTCTC TGAAAGATGGTGATGCTATGCCAGATCGGGAGGCAATTTGGAAGTATGGGTC TGATGCTAGGAAAGGTGGATGGTGAACCATGATCATATTGACAGTTTTGTC TTTGCTGTGGAGGCGACTGAAACCCGAGTAAATGCTCAGGCTGTGCATAT GAATACATGGCTGCATACATAGAAAATGCAAAACAGTTGGCCGCTTGAAA ATGCAATCGGGTGTATCATAGCCACCTGGCTATGGCTGTGGCTTCTGG GATTGATTTAGTACTCAGATGCTCAATCAGCAGTTCAGGAACCATTTGTAG CAGTGGTGATTGATCCAAACAAGAACATATCCGAGGGAAGTGAATCTTGG CGCCTTTAGGACATACCCAAAGGGCTACAAACCTCCTGATGAAGGACCTTCT GAGTACCAGACTATCCACTTAATAAATAAGAAATTTTGGTGTACACTGCAA ACAAATTATGCCTTAGAGTCTCATATTTCAAATCCTCTTTGGATCGCAATTT		TKDHHYFKYCKISALALLKM VMHARSGGNLEVMGLMLG KVDGETMIIMDSFALPVEGT ETRVNAQAAAYEYMAAYIE NAKQVGRLENAIGWYHSH PGYGCWLSGIDVSTQMLN QQFQEPFVAVVIDPRTISA GKVNLGAFRTYPKYKPPD EGPSEYQTIPLNKIEDFGVH CKQYVALEVSFKSSLDK LLELLWNKYWVNTLSSSL

					GCTTGAGCTGTTGTGGAATAAATACTGGGTGAATACGTTGAGTTCTTCTAGCTT TGCTTACTAATGC			LTN	
Shigella ipaH9.8	6	prey4060	174		GGCAATCACATTTTCTTCAAAAAGGATTATAGTAAAGTCCAGCATCTGGCCC TCCATGCATTCATAATACAGAAGTGAAGCTATGCAAGCAGAGAGCTGCTA TCAGCTAGCTAGATCATTCATGTTCCAGGAAGATTATGACCAAGCTTTTCAGT ACTATTATCAAGCCACACAGTTTGCTCATCTCTTTTGTGCTCCCATTTTGTG GTTTGGACAAATGTATATTATCGAGGTGACAAAGAAAATGCATCTCAGTGC TTTGAGAAGGTTTGAAAGCTTATCCTAAATAATTACGAAACTATGAAAATCTC GGCTCTCTATGCTGCCCTCAGAAAGATCAAGAAAACGAGATATTGCCAAGG GCCATTTGAAGAAAGTACAGAACAGTATCCCGATGATGTTGAAGCTTTGGAT TGAATTGGCACAAATCTTAGAACAGACTGATATACAGGGTGCCCTTTCAGCC TATGGAACAGCAACACGAATCCTTCAGGAGAAAGTGCAGGCCGATGTTCCCTC CAGAGATCTCAATAATGTGGTGCCCTCCATTTTAGACTTGAAACCTAGG GGAGGCTAAGAAATATTTTGGCGTCATTGGACCGTGCAAAAGCAGAAAGCG GAACACGATGAGCATTAATAACGCCATTTCCGTTACCACGTCATATAATCT CGCCAGGCTATATGAGCGGATGTGTGAATCCATGAAGCAGAAAACGTGAT AAAAACATCTTACGCGAACATCCTAATATGTTGACTGCTATTTGCGCCTAGG AGCCATGGCTAGAGATAAGGGAACTTTTATGAGGCTTCAGATTTGTTTAAG GAAGCTCTTCAGATTAATCAGGATCATCCAGATGCTTGGTCTTTGATTGGCAA TCTTCAITTTGGCAAAACAAGATGGGCTCTGGGCAGAAAGTTTGAGAGG ATATTAACAGCCATCCACACAGAGTGATACCTATTCTATGCTAGCCCTTGG CAACGTGTGGCTCCAACTTTACATCAGCCACCAGATCGAGAAAAGGAA AAGCGTATCAAGATGCTGCTCTGGCCATCTACAAACAAGTACTCAGAAATG ATGCAAAGAATCTGTATGCTGCCAATGGCATAGGAGCTGTTTGGCCCAAA AGGATATTTTCGTGAAGCTCGTGATGATTTGCCCAAAGTGAAGAGAAGCAACA GCAGATATTAGTGATGTGGCTGAACTTAGCACACATCTATGTGGAGCAAA AGCAGTACATCAGCGCGCTTCAGATGTATGAAAACCTGCCTCCGAAAAGTTCTA TAAGCA	375		ANHFFFKDYSKVQHLALH AFHNTEVEAMQAESCYQL ARSHVQEDYDQAFQYY QATQFASSSFVLPFFGLGQ MYVRGDKENASQCFEKVL KAYPNNYETMKILGSLYAA SEDQEKRDIAKGLHKVTE QYPDDVEAWIELAQILEQT DIQGALSAYGTATRIQEKV QADVPEILNNVGAHFRL GNLGEAKKYFLASLDRAKA EAEHDEHYNAISVTTSYN LARLYEAMCEFHEAEKLYK NILREHPNVVDCYLRLGAM ARDKGNFYEASDWFKEAL QINQDHPDAWSLIGNHLA KQEWGPGQKKFERILKQP STQSDTYSMLALGNVWLQ TLHQPTRDREKEKRHQDR ALAIYQVLRNDAKNLYAA NGIGAVLAHKGYFREARDV FAQVREATADISDVWNL HIYVEQKQYISAVQMYENC LRKFYK	
Shigella ipaH9.8	6	prey49284	175		CTCATCAACTACGTGGGCTTCATCAACTACCTCTTCTATGGGGGCACGGTTG CTGGACAGATAGTCCTTCGCTGGAAGAAGCCTGATATCCCCGCCCATCAA GATCAACCTGCTGTTCCTCCATCATCTACTGCTGTTCTGGGCTTCTCTGCTG GTCTTCAGCCTGTGGTCAGAGCCGGTGGTGTGGCATTTGGCCTGGCCATC ATGCTGACAGGAGTGCTGTCTATTTCTGGGTGTTTACTGGCAACACAAGC CCAAGTGTTTCAGTGACTTCATTGAGCTGCTAACCTGGTGAGCCAGAGAT GTGTGTGGTGTGTACCCCGAGGTGGAGCGGGGCTCAGGGACAGAGGAGG CTAATGAGGACATGGAGGAGCAGCAGCGCCCATGTACCAACCCACTCCCA CGAAGGACAAGGACGTGGCGGGGCGAGCCCCAGCCCTGA	376		LINVVGFINLYFYGGTVAGQ IVLRWKKPDIPRIKINLLFP IYLLFWAFLVFSWSEPVV CGIGLAIMLTGVPVFLGVY WQHKPKCFSDFIELLTVS QKMCVVVPEVERGSGTE EANEDMEEQQQPMYQPTP TKDKDVAGQPQP*	
Shigella ipaH9.8	6	prey67686	176		CTGGGATTACAGGCATGAGCCACAGCACCTGGCTGAGTTTCTCAGCAACCAT TTATTGAATAGACTGTCTTTCCTGGGTATGTTATTGCAATTTGTTGAAAATG	377		LGLQA*ATAPG*VFSAPFIE* TVLSLVYVIAFVENEFTIDV*	

					AGTTCACCATAGATGIGTAGATTTATTCTCTGGGTTCTCTATCCTGTTCTGTTG GTCTATATGCTGTTTTTCATGCTGGTACCATGCTGTTTTGGTTACTACGGCTC TGTAGTATAATCTGAAGTCAGGTAATGTGATTCCTCCANTTTGTTCTTCTG CTNANG			YFWVLVPVLLVYMSVFMVLV PCCFGYYGVSV*SEVR*CD SSXFLVSAX
Shigella ipaH9.8	6	prey66872	177		TTTCACTCAAGAAGATATTGACAGAGCTATTGCTTACCTTTTCCAAAGTGGTT TGTTTGAGAAACGAGCCAGCCAGTAATGAAGCATCCTGAACAGATTTTTTCC AAGACAAAGAGCAATCCAGTGGGAGAGATGGCCGTCCATTTTCACTATCTC TTCTATACTGGCAAACAGTCATACATTATTAATGATTACCAAGCTTTACTTCC CGATCACACAGGACAGAGAACGCTGA	378		FTQEDIDRAIAYLPSPGLFE KRARPVMKHPEQIFPRQRA IQWGEDGRPFHYLFYTGK QSYVSLMITSFTSRSHRTE NS*
Shigella ipaH9.8	6	prey67690	178		ATGGAGATGAGGCTTCCAGTGGCTCGCAAGCCTCTTAGCGAGAGACTGGGC CGCGACACTAAGAAACATCTAGTGGTGCCGGGGATACAATCACTACGGAC ACAGGATTCATGCGGGGCCATGGAACGTATATGGGAGAGAGAGACTCATTT GCATCTGTTGCTGGCTCTGTGGAGAGAGTAACAAGTTGATCTGTGTGAAG CTTTGAAACCAGATACATTGGTGAAGTAGGAGACATCGTAGTGGGACGAAT CACAGAGAGGAGAGATCTGCAGAAAGATGAGCTTGAATGAGAGGTTCTTA CAGGAAGGGGACCTTATCAGTGTGAGTCCAGGCAGTCTCTGACGGA GCTGCTCTTTGCACAGGAGGAGCCTGAAATATGAAAACAGGTCAAGGG GTTTTGGTCCAGGTTTCCCCCTCCCTGGTGAACGGCAGAAACCCACTTTC ATGATTTGCCATGTGGTGCTCAGTGATTCTCGGTAAACACGCTTCATCTG GATTTACCCAACACCTGAGCACAAAGAGAGGAAGCAGGGGCTTCATTGC AACTCTGAGCCTGCTCTCTTGTCTGATCGAGAGGTGATATCCCGCTTCGG AACTGCATCATCTCGCTGGTAACCTCAGAGGATGATGCTGTATGATACAGCA TCCTGTACTGCTATGAAGCATCCCTTCCACATCAGATCAAAAGACATCTTAAAG CCAGAAATAATGGAGGAGATTGTGATGGAACACAGCCAGAGGCTTTTGGAAAC AGGAGGGATAA	379		MEMRLPVARKPLSERLGR DTKKHLVWPGDTITDTGF MRGHGTYMGEEKLIASVA GSVERVNLICVKALKTRYI GEVGDIVVGRITERRRSAE DELAMRGFLQEGDLISAEV QAVFSDGAVSLHTRSLKYG KLGGVLVQVSPSLVKRQK THFHDLP CGASVILGNNGFI WIYPTPEHKEEEAGGFIANL EPVSLADREVISRRLRNCIISL VTQRMMLYDTSILYCYEAS LPHQIKDILKPEIMEEIVMET RQRLEQEG*
Shigella ipaH9.8	6	prey67695	179		CAAAGATTTAAATATGAATGTGAACAGCTTTCAAAGGAAATTTGTGAATGAAG TCAGAAGGTGTGAATCACTGGAGAGAAATCCTCCGTTTTCTGGAAGACGAGAT GCAAAATGAGATTGATTAGTTCAGTTGCTCGAGAAAGCCCACTGACCCCGCTC CCACGGGAAATGATTACCTCGGAGACTGTTCTAGAAAACTGGAAGGAGAGT TACAGGAAGCCCAACCAGAACCCAGCAGGCTTGAACAAAGCTTCCTAGAAGT GACAGAACTGAAATACCTCCTGAAGAAACCCCAAGACTCTTTGAGACGGAA ACCAATTTAGCTGATGATTTCTTTACTGAGGACACTTCTGGCCTCCTGGAGTT GAAAGCAGTGCCTGCATATATGACCGGAAAGTTGGGTTTCATAGCCGGTGT GATCAACAGGGAGAGGATGGCTTCTTTGAGCGGTTACTGTGGCGAATCTG CCGAGGAAACGTGTACTTGAAGTTTCAGTGAGATGGACGCCCTCTGGAGGA TCCTGTGACGAAAGAAGAAATTCAGAAAGACATATTCATCATATTTTACCAAG GAGAGCAGCTCAGGCAGAAATCAAGAAGATCTGTGATGGGTTTCGAGCCA CTGTCTACCTTGGCCAGAGCCTGCGGTGGAGCGCAGAGAGATGTTGGAGA GCGTCAATGTGAGGCTGGAAGATTTAATCACCGTCATAACACAAACAGAGTCTC	380		KDLNMNVNSFQRKFVNEV RRCESLERILRFLDEMQN RIVESQLLEKSPLTPLPREMI TLETVLEKLEGELEQANQN QQALKQSFLTELKYLK TQDFFETETNLADDDFTED TSGLLELKAVPAYMTGKLG FIAGVINRERMASFERLLW RICRGNVYLKFSEMDAPLE DPVTKEEIQKNIFIYQGEQ LRQIKKICDGFRAIVYPCP EPAVERREMLESVNVRLD LITVITQTESHRQRLQEA ANWHSWLJKVQMKAVYHI

Shigella ipaH9.8	6	prey67336	180	TCACCGCCAGCGCTGCTGCAGGAAGCCGCTGCCAACTGGCACTCCTGGCT CATCAAGGTGCAGAAAGATGAAAGCTGTCTACCACTCCTGAACATGTGCAAC ATCGACGTACCCAGCAGTGTCTCATGCCGAGATCTGTTCCCGGTGGCA GATGCCACAGTATCAAGAGGGCACTGGAGCAAGGCATGGAACCTAAGTGGC TCCTCCATGGCCCCCATCATGACCACAGTGCAATCTAAACAGCCCCCTCCA CATTAACAGGAC		LNMCNIDVTQQCVIAEWF VADATRIKRALEQGMELSG SSMAPIMTTVQSKTAPTF NR
Shigella ipaH9.8	6	prey67336	180	ATGGAGTGACATGGGACTTCAGCATGAGCAATGGAGGCCCCCGTGGAA GACCTATGCTTTCAAGGGGACTATGTGGACTGTATCAGATTGAGGACCG GGCCCCGTTCCGAGTGTCTGCCCTTTGGAGGGGCTCCCGGAAACCTG GATGCTGCTGCTACTCGCTCGAACACAAATGATTCACTTCTTAAGGGAG ACAAGGTGGCGCTACATTAATTTCAAGATGTCTCCTGGCTTCCCAAGAA GCTGAATAGGGTAGAACCTAACCTGGATCGAGCTCTCTATTGGCCTCTCAAC CAAAAGGTGTTCTCTTTAAGGCTCCGGTACTGCGAGTGGGACGAGCTA GCCCCAAGTACTGACGAGTACCCCAACCAATCAAGGTTTGTTCACGG GAGTGCCAAACCCAGCCCTCGGCTGTATGAGTTGGCAAGATGGCCGAGTCT ACTTCTCAAGGGCAAGTCTACTGGCGCTCAACCCAGCAGTCTCGAGTAGA GAAAGGCTATCCCAAGAAATATTTCCACAACTGAGTGCACGTCTGTCGCCGG ACTATAGACACTACCCCATCAGGTGGGAATACCACTCCCTCAGGTACGGGCA TAACCTTGGATACCACTCTCAGCCACAGAACCCAGTTTGAATACTGA		MGVTWDFSMSNGGPRGK TYAFKGDYVWTVSDSGPG PLFRVSALWEGPLGNLDA VYSPRTQWIHFFKGDVW RYNFKMSPGFPKLNKRV PNLDAALYWPLNQKVLFK GGYVQWDELARTDFSS PKPIKGLFTGVPNQPSAAM SWQDGRVYFFKGVYWR NQLRVEKGYPRNISHNW MHCRPTIDTTPSGGNTTP SGTGITLDTLSATETTFEY*
Shigella ipaH9.8	6	prey6299	181	AGACAGAGGCCATGTTTCAAGAGCATTAAGTGAAGAAAGGATGAAAGA CTACACTGTGAGAAATATGATAAGCCCTGAATCAGAGTCAGAGAACCCAA CTCCTCTGCCACTGGCAAGTATAGAGCTGAAGAGGACCAACCGCTA GTTCAAGTTTCATGAAGACTGCTGTACTAGGACCTACACTGAAAATGTAATG ATGAAAATATAAATAGCAGTTCCTTAACTATAATGCTACGTTTATGGG CTTCAAGATGATGGATGGAAGAACAGCATATTGATTAATTTGGTGCCTATCA AACAAATGTATGTTCCAGGCTCAGATCAGGTGCTGCAAGGACGGTAC TGCTAATTTGAGCCCCAGACTTTGGACACTAATGGATTTTAAACAGGAGTAA CAACTGAGTTAAATGACACAGTTTATGAAAGCAGCTACTCCTATTTCATGT TCATCTTCTACTTTCAGGGAAGCAAGTTCAAGAAAGAAATGACTTTGAT ATCTCAAGGAATAATATGCTTCAACAATGGATTATGAGAAAGTGTATCTT CTTTGTCAGCAACATCAGAAATGGTTACAGCATCAGTGAATTTGACCACAAA TTTGAAACAAGAGATAATGTTGACTTCTGGGAAATCATCTCACTCAGAGTCA CCCCGAGGTATTAGGTACCACTTAAAGTCCAGATAAAGTCAACTGTGTT GCCAAACCAATGCATACACAGTGGAGATATGCATAATTTATGCAATTAATTA TGGCAACTGTGAGTTACCTGTTGAATCCTCAACCAAGGATCATACCTTTTC ATAATTTACTCAAAAGTGAATAATTTCTAATAACGCTGAGTTTTCAGGAACA GCAGTGTATGAAACCCCTCAAGAGAAATCTTCAATCCAGCAAAACAGTTGTCC AACAAACCAATAGTGAATCATTTTATCACTAGTGAAGCAGGAGAGCTCAAAA CCAGATAGCCTATTAGCATCTATTAGCCTTTTAAATGATAAAGATGGAACCTT		DQSHVQEHSEKDERL HCENNDKAPESSEKPTPL STGQGNRAEEGPNASSGF MKTAVLGPGLKNVMMKNN KLAVSPNYNATFMGFKMM DGKQHVILKLVPIKQNVCS GSQSGAAKDGATNLQPQT LDTNGFLTGVTTTELNDTV MKAATPFSCSSSILSGKAS SEKEMTLISQRNNMLQTM YEKSVSSLSATSELVTASV NLTKFETRDNVDFWGNHL TQSHPEVLGTTIKSPDKVN CVAKPNAVNSGDMHNYCI NYGNCELPVSSNQSLPF HNYSKVNNSKRRRFSGT AVYENPQRESSSSKTWVQ QPISEFLSLVRQESSKPD SLLASISLNDKDGTLKAKS EIEEQVLEKGQNDGQNL

Shigella ipaH9.8	6	prey6586	182	<p>AAAAAGAAAATCTGAAATGAAGAACAGTATGTTTTAGAAAAAGGACAAAAACA TTGATGGACAAAACCTGTACAGTAATGAAATCAAAATTTAGAGTGTGCGACT GAAAAATCTAAATGGGAAGACTTTCTAATGTCGATTCACCTATGATGCCTAG AATCACATCTGTTTTCTCTCCAGAGCCAAACAGGCATCAGAATTTCTGCCAC CTGAAGTAAACCAATGCTTCAGGATGATTGAAATAAACCCCTGATGTAATA CAAGACTCTAGTAACACTCCAAATAAAGGCTTGCCACTTCATTGTGACCAGTC ATTTCAAAACACGAGAGAGAAAGGCAAAATTTGTAATCTTCGAAAGATTTC AAGTGCAAGGCATCTCCAGTTCACCTGGCAGTGTGGTATTAAATGTGCC TACAAATGATTTGAAATTTGAAATTTGGAAAGAAACAAAGTGCATCAATAC CACAAGATGTGAGAGATTCAGAGAAGATGCCAGAAATTCAGGTTTGGCAC ATTACTTAAGACTCAGTACAGTGCAGTAAATACACAGCAGCTGTAAAGACA AACTACGAGCCACACAAAATTAGGTTCTTTTATATGCAGAGTCCACTT TTAAATTCAGAAACAAAAAACTATAATTTGTCAGACTTCAAAAGGATCTTA ATACCATGAACATTACTAACAGCTGGCTACCGATTATTCCTGGAATGC ACTCCATTGGTTAATTCACAAGGTATCCCTGCTCTCTTTTGTAAACAAGAA ACCTGGATGTTTTAACACTTAATATGGGAACTTGAAGGTGTTCCGCT GTCAAAACCGAGGGTCCCCAGCTCGTGGAACTGTGACTAAGGAGCCTTGC AAACACCTATTTGAAGGTAGAACCAACAATAATTGCTTACACCTGGACT TTGTTCCAGATTGGCAGTTGTTGAGCATGAAAGTAGCTCAGAAATACATT TGCCATTAAAGGCCCTACATTTTGAACCCACGAGTTCTGTGAAAGCTGT CTTATTCTAACATGCTATCTGAGCAACAGAGCAGTAAAGTTGAATATCTCCGA TTCAGTAAACAGCAGAAATGAGATTTTCCAAACCACCTCTTTATACCTCTT GCCTGATGGCAACAAAGCTGTTTTTTTAAAGTGTGATGCCAAATAAACTG AGCTGCTTAAGCCCAATAGTCCAAATAGTACTTATCAAAATATACAGCCA AAGAAACCTGAAGGAACACCAACAGGCCACTTTCCGCCAAATGCAGCTTGAGAA TTTAAATGTGACTGCTGCTAAATCTGTGAGTAAAGCAACTCTGCATCTCAT TGCAAAAGACAAACGTACCATCTAATCAGATTATAGGAGGAGAGCAGAAAGA GCCAGAACTAGAGATGCCTTACCTTCTTACTAGATGACTTAATGCCAGCAA ATGAAATTGTGATAACTTCTACTGCAACATGCCAGAACTCTCTGAGGAACCA ATATGTGTCAGTGACTGTTCCAGAGTCCAGGGTATTAAAGGTGTAACAAATG TAGAATTGAGAGGAACCTCAATAGAAAAAGACTTCCAAAAAATTTTTTCAA AAACAAAACCTCATGGAAGTAA</p>	<p>YSENQNLECAKESKWE DFSNVDSPPMPPRITSVFSL QSQAASEFLPPEVNQLQD VLKIKPDVKODSSNTPNKG LPLHCDQSFQKHEREGKIV ESSKDFKVQGIFFVPPGSV GINVPTNDLNLKFGKEKQV SSIPQDVRDSEKMPRISGF GTLTKTQSDAITQQLVKDK LRATTQNLGSFYMQSPLLN SEQKTIIVQTSKGFLIPLNI TNKPLPVIPIGNALPLVNS QGIPASLFVNKKPGMVLTL NGKLEGVSAVKTEGAPA RGVTKEPCKTPIKVEPN NNCLTPGLCSSIGSCLSMK SSSENTLPKGPYILKPTSS VKAVLIPNMLSEQQSTKLN SDSVKQNEIFFKPPLYTFL PDGKQAVFLKCMPNKTEL LKPCLVQNSTYQNIQPKKP EGTPQRILLKIFNPVLNVA ANNLSVNSASSLQKDNVP SNQIIGGEQKEPESRDALP FLDDLMPANEIVITSTATC PESSEEPICVSDCSESRLV RCKTNCRIERNFNKKTSK KNFFKNKNSWK*</p>
			383	<p>CGCGCCGTGGAAGAAGATCCAGCAGAACACATTTACGCGCTGGTGCAACGA GCACCTGAAGTGGTGAGCAAGCGCATGCCAACCTGCAGACGGACCTGAG CGACGGGCTGGGCTTATCGGCTGTGGAGGTGCTCAGCCAGAGAAGAT GCACCGCAAGCACAACACGCGGCCACTTTCCGCCAAATGCAGCTTGAGAA CGTGTGGTGGGCTCGAGTTCTGGACCGCGAGAGCATCAAACTGGTGTC CATCGACAGCAAGGCCATCGTGGACGGGAACCTGAAGCTGATCCTGGGCCT CATCTGGACCTGATCCTGCACACTACTCCATCTCCATGCCCATGTGGGACGAG</p>	<p>APWKIQQNTFRWCNEH LKCVSKRIANLQDLSDDL RLIALLEVLSSQKMKHRKH QRPTFRQMLENVSALEF LDRESIKLVSDSKAIVDGNL KLILGLWTLILHYSIMPMW DEEDEEAKKQTPKQRLLG</p>

				GAGGAGGATGAGGAGGCCAAGAAGCAGACCCCCAAGCAGAGGCTCCTGGG CTGGATCCAGAACAGCTGCCGAGCTGCCATCACCACCTCAGCCGGGA CTGGCAGAGCGCGGCTGGCGCTGGTGACAGCTGTGCCCG GGCTGTCTGCTGAGTCTGGGACCTGGGACCGCAGCAAGCCGTTACCAAT GCGGAGAGGCCATGACAGAGGCGGATGACTGGCTGGCATCCCCAGGT GATCACCCCGAGGAGATTGTGACCCCAAGCTGGACGAGCACTCTGTCTAT GACCTACCTGTCCAGTTCCTCAAGGCCAAGCTGAAGCCAGGGCTCCCTT GCGCCCAAACTGAACCGAAGAAAGCCCGTGCCTACGGGCCAGGCATCG AGCCACAGGCAACATGGTGAAGAGCGGGCAGAGTTCAGTGTGGAGACCA GAAGTCTGGCCAGGAGAGGTGCTGGTACGTGGAGGCCCGGCCGGA CACCAGGAGGCAAAAGTGACCGCAATAACGACAAGAACCGCACCTTC TCCGTCTGCTACGTCCCGAGGTGACGGGACTCATAAGGTTACTGTCTC TTTGCTGGCCAGCACATGCCAAGAGCCCTTCGAGGTGACGTGGATAAG TCACAGGTGACGCCAGCAAAAGTGACAGCCCAAGTCCCGCTGGAGCC CAGTGGCAACATCGCCAAAGACCACTACTTTGAGATCTTACGGCAGGA GCTGGACGGGAGGTGAGGTTGTATCCAGGACCCCATGGACAGAA GGCAGCGTAGAGCTCAGCTGAGGCGCGGCGGACAGACACATACCGCT GCAGTACCAGCCCATGAGGCGCTCCACACCGTGCACGTACCGTTTG CCGCGTGCCATCCCTCGAGCCCTACACTGTACTGTTGCCAAGCCT GTACCCGAGTGCTGCCGGCGGTGGCGGCTCCAGCCCAAGGT GTCCGGGTGAAGGAGACAGTACTCAAGGTGACAAAGGCGCTGGC AGTGGGAGCTGAAGTACCCTGAGGCGGCGGCGGAGGAGGAGCGCT GAAGCAGAAGACCTGGGGATGGGTGATGGCTCGAGTATTACCCCAT GGTCCCTGGAACCTATATGTCACCATCAGTGGGCTGTCAGAACATCGG GCGCAGTCCCTCGAAGTGAAGTGGGACCGAGTGGCAATCAGAAGGT ACGGGCTGGGCGCTGGCTGGAGGCGGCTCGTGGCAAGTCAGAGT ACTTGTGTGGAGCTATCGGGACGAGCTGGGACGCTGGGCTTCTCG GTGGAAGGGCCATCGAGGCTAAGATCGAATGTACGACAAAGGCGCAGG CTCCTGTGATGTGCGTACTGGCGCAGGAGGCTGGGAGTATGCCGTTCA CGTGTGTGCAACAGCGAAGACATCGGCTCAGCCCTCATGGCTGACAT CCGTGACGCGCCCGAGGACTCCACCCAGACAGGGTGAAGGACGTTGGC CTGGATTGGAGAAGACAGGTGTGGCGTCAACAAGCCAGCAGATTACAG TGATGCCAAGCAGGTTGCAAGGCGGCGCTCGGTTCAAGTCCAGTCCAGGACA ATGAAGGCTGCCCTGTGGAGGCGTGGTCAAGGACAAAGGCAATGGCACTT ACAGCTGCTCTACGTGCCAGGAGCGGTTGAAGCACACAGCCATGGTGT CCTGGGAGGCGTCAGCATCCCCAACAGCCCTTCAGGGTGAATGTGGGA GCTGGCAGCCACCCCAACAGGTCAAAGTATACGGCCCGGAGTAGCCAAAG ACAGGCTCAAGGCGCCAGGCGCCACCTACTTCACTGTGGACTGCGCCGAG GCTGGCCAGGGGACGTCAGCATCGGCATCAAGTGTGCCCTGGAGTGGT	WIQNKLPQIPITNFSRDWQ SGRALGALVDSAPGLCPD WDSWDASKPVTNAREAM QQADDWLGPQVITPEEIVD PNVDEHSMVTYLSQFPKAK LKPAGAPLRKLPKPKARAY GPGIEPTGNMVKKRAEFTV ETRSAGQGEVLVVEDPA GHQEEAKVTANNDKNRTF SWYVPEVTGTHKVTLFA GQHIKSPFEVYVVDKSGIE ASKVTAQGGPLEPSGNIAN KTTYFEIFTAGAGTGEVEV IQDPMGQKGTVEPQLEAR GDSTYRCSYQPTMEGVHT VHTFAGVPIPRSPYTVTV GQACNPSACRAVGRGLQP KGVRVKETADFKVYTKGAG SGELKVTVKGPKEERVK QKDLGDGVYGFYPMVP GTYIVTITWGGQNIGRSPFE VKVGTGECNQKVRWVGPG LEGGVVGKSADFFVEAIGD DVGTLGFSVEGPSQAKIEC DDKGDGSCDVRYPQEA GEYAVHVLCSNEDIRLSPF MADIRDAPQDFHPDRVKAR GPGLEKTGVAVNKPAAFTV DAKHGGKAPLRVQVQDNE GCPVEALVKDNGNGTYSY SYVPRKPVKHTAMVSWGG VSIPNSPFRVNVGAGSHPN KVKVYGPVAKTGLKAHEP TYFTVDCAEAGQGDVSI KCAPGVVGPAAEDIDFIIR NDNDTFTKYTPRGAGSYT IMVLFADQATPTSPIRVKE PSHDASKVKAEGPGLSRT GVELGKPTHFTVNAKAAGK
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				AGGCGCGCGAAGCTGACATCGACTTCGACATCATCCGCAATGACAATGA CACCTTACGGTCAAGTACAGCCCGGGGGCTGGCAGCTACACCATAT GGTCTCTTTGCTACCAAGCCAGCCACCGCCCATCCGAGTCAAGGT GGAGCCCTCTCATGACCCAGTAAGGTAAAGCCGAGGCCCTGGCCTCA GTCGCACTGGTCTGAGCTTGCAAGCCACCCACCTTACAGTAAATGCCA AAGCTGCTGGCAAGGCAAGCTGGACGTCCAGTTCTCAGGACTCACCAAGG GGGATGCACTGCGAGATGTGGACATCATGACCAACCATGACAACACCTACA CAGTCAAGTACACGCTGTCCAGCAGGCTCAGTAGCGTCAATGTCACTTA TGGAGGGATCCCATCCCTAAGAGCCCTTCTCAGTGGCAGTATCTCCAAGC CTGGACCTCAGCAAGATCAAGGTGTCTGGCTGGAGAGAGGTTGGACGTT GGCAAGACCAAGGATTCACAGTCAATCAAGGGTGTCTGGTCAAGGC AAAGTGGCATCCAAGATTGAGGCCCCCTGGGTGAGCGGTGCCCTGCAAG GTGAGCCAGGCTGAGGTGAGGCTGACAACTGAGTGGCTTCTGCCCCG TGAGGAAGGCCCTATGAGGTGAGGTGACCTATGACGGCTGCCGTGC CTGCAAGCCCTTCTCTGGAAGCTGTGGCCCCACCAAGCTAGCAAGG TGAAGGCTTGGCCGGGCTGAGGGAGGACAGTGGCTGCCCTGCCCGC CGCTTACCATCGACACCAAGGGCCGCGACAGTGGCTGGCTGGCTGAC GGTGAAGGCCCTGTGAGGCGAGCTCGAGTGTGGACATGGGGATG GCACATGTTCCGTCTACGTGCCACCGAGCCCGGGACTACAACATCA ACATCTCTTGGCTGACACCCACATCCCTGGTCCCCATCAAGGCCACGT GGTCCCTGCTTACCGATCCAAAGTCAAGTGTCTAGGCCCGGGCTGGA GCGGCCACCGCTGGGAGGTGGCCAAATCCAAGTGGACTGCTGAGCG CGGAGGTGATACCCAGGACCAAGTGTGATGCGACGACACCATACCTAC ATCCCTCTGCCCCGGGCTACACCGTCAACATCAAGTACGGGGCCAG CCGTGCCCAACTCCCCAGCAAGCTGCAGGTGGAACCTGCGTGGACACT TCCGTGTCCAGTGCTATGGCCCTGGATTGAGGGCCAGGTGTCTTCCGT GAGCCACCACTGAGTTCAGTGTGAGCCCGGGCTCTGACACAGACCCG AGGCCGCACGTCAAGGCCGTGTGGCCAAACCCCTCAGCAACCTGACCG AGACCTACGTTCAAGACCGTGGCGATGGCATGTACAAAGTGGAGTACACG CTTACGAGGAGGACTGCACTCCGTGGACGTGACCTATGACGGCAGTCCCG TGCCAGCAGCCCTTCCAGGTGCCGTGACCGAGGGCTGCGACCCCTCC CGGTGCGTGTCCAGGCCAGGATCCAAAGTGGACCAACCAACAGCC CAACAAGTTCACTGTGAGACCAAGGAGCTGCAAGGGCGGCTGGGCG TGGCTGAGAGGCCCTCCGAGGCCAAGATGTCTGATGATAACAAGG ACGCACTGCTGCTGAGTACATCCCTTATGAGGTGGCACTACAGCC TCAACGTACCTATGTTGGCCATCAAGTCCAGGAGTCTTCAAGGTCCC TGTGATGATGACAGATGCTCCAAAGTCAAGTCTCTGGGCCCGGCT GAGCCAGGATGGTTCGTGCCAACCTCCCTCAGTCTTCCAGGTGGACAC				GKLDVQFSGLTKGDAVRD VDIHDHNTYTVKYTPVQQ GPVGNVYGGDPIPKSPF SVAVSPSLDLKIKVSLGE KVDVGKDEFTVKSAGAG GQKVASKIVPSGAAPVC KVEPGLADNSVVRFLPRE EGPYEVEVTYDGVVPVGS PFPLEAVPTKPSVKAFG PGLQGSAGSPARFTDTK GAGTGGGLTVEGPCEAQ LECLDNGDGTCSVSVPTB PGDYNILFADTHIPGSPF KAHVPCFDASKVKCSGP GLERATAGEVGQFQVDCS SAGSAELTIEICSEAGLPAE VYQDHGDGTHITYPLCP GAYTVTKYGGQVPPNFP KLQVEPAVDTSGVQCYGP GIEGQGVFREATTESVDA RALQTGGPHVKARVANP SGNLTETVYQDRDGMKY VEYTPYEEGLHSVDVTDG SPVSSPFQVPTGECDDPS RVRHGPQISGTTNKNPK FTVETRGAGTGGGLAVEG PSEAKMSCMDNKGSCSV EYIPYAGTSLNVTYGGH QVPGSPFKVPVHDVTDASK VKCSGPGLSPGMVRANLP QSFQVDTSKAGVAPLQVKV QGPGLVEPVDVVDNADG TQTVNVPSREGPYISVL YGDEEVRSPFKVKVLP DASKVKASGPGNLTTGVPA SLPVEFTIDAKDAGEGLAV QITDEGPKPKTHIQDNHD GTYTVAYVPDVTGRYTILIK YGGDEIPFSPYRVRVPTG
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				<p> AAGCAAGGCTGGTGGCCCCATTGCAGGTCAAAGTGCAAGGGCCCAAGG CCTGGTGGAGCCAGTGACGTGGTAGACAACGCTGATGGCACCCAGACCGT CAATTATGTGCCCAGCCGAGAAAGGCCCTACAGCATCTCAGTACTGTATGGA GATGAAGAGGTACCCCGAGGCCCTTCAAGGTCAAGGTCAAGGTGCTGCTACTCAT GATGCCAGCAAGTGAAGGCCAGTGCCCGGCTCAACATCGATGCAAGGACGCCGGG GCCTGCCAGCCTGCCGTGGAGTTCACCATCGATGCCGAAGCAAGCCGAAGAAGA AGGGCCTGCTGGCTGCCAGATCACGGATCCGACGTCACAGTGGCCTACGTGCCAG CACACATCCAAGACAACCATGACGCGACGTATACAGTGGCCTACGTGCCAG ACGTGACAGTGGCTACACCATCCTCATCAAGTACGGTGGTACGAGATCC CCTTCCCCGTACCGGTGCGTGGGTGCGGTGCCCCAGCGGAGGCCAGCAAG TGCACGTGCACAGTGCATCGGAGGTCAAGGTGCGGTGCGGTGCGGTGCGGTGCGG CCACCATTCAGATTGGGAGGAGACGGTGATCACTGTGACACATAAGCGG GCAGGCAAGGCAAGTGACGTGCAACGTGTCAGCGCTGATGGCTCAGAG GTGGATGTGGACGTGTGGAGAAATAGGACGGCACCTTCGACATCTTAC ACGCCCCCAGCCGGGCAATACGTATCTGTGCGCTTGGTGGCGAG CACGTGCCCAACACCCCTTCCAAGTACGGCTCTGGCTGGGACCCAGCCC TCGGTGACGCCCCCTACGGTCTCAGCAGCTGGCCCCACACAGTACACCTAC GCCAGGGCGCCAGCAGACTTGGCCCCGGAGAGGCCCTGGTGGGTG CAATGGCTGGATGTACCAGCCTGAGGCCCTTGACCTTGATGCTATCCCTTC ACCATCAAGAAAGGCGAGATCACAGGGAGGTTCGGATGCCCTCAGGCAAG GTGGCGAGCCCAACCATCACTGACAACAAGACGGCACCGTGACCGTGGC GTATGACCCAGGAGGCTGGCTGCACGAGATGGACATCCGCTATGACAA CATGACATCCAGGAAGCCCCCTGCAGTCTATGTGGATTACGTCAACTGT GGCATGTCACTGCTATGGCCCTGGCTCACCCATGGAGTAGTGAACAAG CCTGCCACCTCACCGTCAACACCAAGGATGCAGGAGAGGGGCGCTGTCT CTGGCCATTGAGGGCCCTCAAGCAGAAATCAGCTGCACTGACAACACAG GATGGACATGCAGCGTGTCTACCTGCTGTGCTGCGGGGAGTACAGC ATTCTAGTCAAGTACAATGAACAGCACGTCCAGGAGGCCCTTCACTGCTC GGTCAAGGTGACGACTCCATGCTATGTCCACCTAAAGTGGCTGTG CTGCCGACATCCCCATCAACATCTCAGAGACGGATCTCAGCCTGTGACCG CCACTGTGGTCCCGCCCTCGGGCGGAGGAGCCCTGTTTGTGAAGCGG CTGCGTAATGGCCACGTGGGATTTCATTGTCGCCAAGGAGACGGGGGAG CACCTGTGTCATGTGAAGAAATGCCCAGCACGTGCCAGCAGCCCCATC CCGGTGGTGATCAGCCAGTCGAAATGGGATGCCAGTCCGCTGTTCCGGTC TCTGTGTCAGGGCCCTCACGAAGGCCACACCTTTGAGCCTGCAGAGTTATCA TTGATACCCGCGATGCAGGCTATGGTGGCTCAGCCTGTCCATTGAGGGCC CCAGCAAGGTGGACATCAACACAGAGGACCTGGAGGACGGGACGTGCAGG GTCACCTACTGCCCCACAGAGCCAGGCAACTACATCAACATCAAGTTTG CCGACCAGCACGTGCTGGCCTGGAGCCCCCTCTCTGTGAAGGTGACAGGCGAG </p>	<p> DASKCTVTVSIGGHGLGAG IGPTIQIGEEVTITVDTKAAG KGKVTCTVCTPDGSEVDV DVVENEDGTFDIFYTAQP GKYVICRFGGEHVPNSPF QVTALAGDQSPQPPLRS QQLAPQYTYAQQGQQTWA PERPLVGUNGLDVTSLRPF DLVIPFTKKGEITGEVRMP SGKVAQTITDNKDGTVTV RYAPSEAGLHEMDIRYDNM HIPGSPQLQFYVDVYVNCGHV TAYGPGLTHGVVNKPATFT VNTKDAGEGGLSLAIEGPS KAEISCTDNQDGTCSVSYL PVLPGDYSILVKYNEQHVP GSPFTARVTGDDSMRMSH LKVGSAADIPINISSETDLSL TATVPPSPGREEPCLLKRL RNGHVGISFVPKETGEHLV HVKNQGQHVASSPIPVVIS QSEIGDASRVRVSGQGLHE GHTFEPAEFIIDTRDAGYG GLSLIEGPSKVDINTEDLE DGTCTRVTYCPTPEGNYINI KFADQHVPGSPFSVKVTGE GRVKESITRRRRAPSVANV GSHCDLSLKIPEISIQDMTA QVTPSPSGKTHEAEIVEGEN HTYCIRFVPAEMGTHTVSV KYKGQHVPGSPFQFTVGP LGEAGHVKVRAGGPGLER AEAGVPAEFSIWTREAGAG GLAIAVEGPSKAEISFEDRK DGSCGVAYVWQEPGDYEV SVKFNEEHIPIPSFWVPVA SPSGDARRLTVSSSLQESGL KVNQPASFAVSLNGAKGAI DAKVHSPSGALEECYVTEI </p>
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Shigella ipaH9.8	6	prey56789	183	GGCCGGGTGAAAGAGAGCATCACCCGAGGGCGTGGGCTCCTTCAGTGGC CAACGTTGGTAGTCATTGTGACCTCAGCCTGAAATCCCTGAAATTAGCATC CAGGATATGACAGCCAGGTGACAGCCCATCGGCAAGACCCATGAGGCC GAGATCGTGAAGGGGAGAACACACCTACTGTCATCCGCTTTGTCGCGT GAGATGGCACACACAGTCAGCGTCAAGTACAGGGCCAGCACGTGCCT GGGAGCCCCCTCCAGTTCACCGTGGGGCCCCCTAGGGGAAGGGGAGCCCCA CAAGGTCGAGCTGGGGCCCCCTGGCCTGGAGAGAGCTGAAGCTGGAGTGC CAGCCGAATTCAGTATCTGACCCGGGAAGCTGGTCTGAGGCGCTGGCCA TTGCTGTCGAGGGCCCCAGCAAGGCTGAGATCTCTTTGAGGACCCGAAGG ACGGCTCCTGTGTGGCTTATGTGTCAGGAGCCAGGTGACTACGAAG TCTCAGTCAAGTTCAACGAGGAACACATTCGAGAGCCCTTCGTTCTAGCCTTCA TGTGGCTTCTCCGCTGGGACGCCCGCCCTCAGTCTTCTAGCCTTCA GGAGTCAAGGCTAAGTCAACAGCCAGCCTCTTTGAGCTAGCCTGAA CGGGCCAAAGGGGCGATCGATGCCAAGTGCACAGCCCCCTCAGGAGCCC TGGAGAGTCTATGTACAGAAATTGACCAAGATAAGTATGCTGTGCGCTT CATCCCTCGGAGAAATGGCGTTACCTGATTGACGTCAAGTTCAACGGTACC CACATCCCTGGAAGCCCCCTCAAGATCCGAGTGGGAGCCCTGGGCATGGA GGGACCCAGGCTTGGTGTCTGCTTACGGAGCGAGTCTGGAAGCGGCTGT CACAGGAACCCAGCTGAGTTCGTGTAACACAGCAATCGGGAGCTGG TGGCCTGTGGTGACCATGACGGCCCCCTCAGGTGAAGTGAATGGCA GGAGTCCCTGAGGCTACCGCTCAGTACCTATACCCCTGACACCTGGCAG CTACCTCATCTCCATCAAGTACGGCGGCCCTACCACATTTGGGGCAGCCC CTTCAAGGCCAAAGTACAGGCCCGCTCTGTCAGCAACCCAGCCCTCCA CGAGACATCATGTTTGTAGACTCTGACCAAGGCCACCTGTGCCCC CAGCATGGGGCCCCGGTCTGGGCTGCTGACGCCAGCAAGGTGGTGGC CAAGGGCTGGGCTGAGCAAGGCCCTACGTAGGCCAGAAAGAGCAGCTTCA CAGTAGACTGCAGCAAGCAGGCAACACATGCTGCTGGTGGGGGTTTCATG GCCAAGGACCCCTGCGAGGAGATCCTGGTGAAGCACGTGGGCGAGCCGG CTCTACAGCGTGTCTACCTGCTCAAGGACAAAGGGGAGTACACACTGGTG GTCAAATGGGGCACGAGCACATCCAGGCAGCCCCCTACCGCTTGTGGTG CCCTGA	DQDKYAVRIFIPRENGVYLID VKFNGTHIPGSPFKIRVGEP GHGGDPLVSAYGAGLEG GVTGNPAEFVNTSNAGA GALSVTIDGPSKVMDQCQE CPEGYRVITYTPMAPGSYLI SIKYGGPYHIGGSPFKAKVT GPRLYSNHSLHETSSVFD SLTKATCAPQHGAPGPGP ADASKVAVAKGLGLSKAYVG QKSSFTVDCSKAGNNMLLV GVHGPRTPCEEILVKHVGS RLYSVSYLLKDKGEYTLV KWGHEHIPGSPYRVVVP*
			384	CCCCAACATCATCCAGTTTGTGCCAGCTGATGGGCCCTATTTGGGACACT GTCACACAGCTCAGAGCACCTCTGTGGCATCACTTACAGGCAGTGTGCC ACCTTCAAACACACTGTGGAAGCAGGTGGCCAGAACCTTGACCCGTTCCAC ACCTTCCACGCTGGCTGGAGAGTGGCGGGAAGAACTTCCACTTCGTG CACCGCTCGGCCGACGTGGAGAGCGTGTGAGCGGAGCCCTCCGCTCAGC CTTCGAGTACGGTGGCCAGAAAGTGTTCGCGCTGCTCGCGTCTCTACGTGCC GCACTCGCTGTGGCGCAGATCAAAAGGGCGGCTGCTGGAGGAGCACAGTC GGATCAAAGTGGGCGACCCCTGCAGAGGATTTGGGACCTTCTCTCTGCAGT	PNIQFVFPADGPLFGDTVTS SEHLCGINFTGSVPTFKHL WKQVAQNLDRFHTFPRLA GECGKNFHFVHRSADVE SVVSGTLRSAFEYGGQKC SACSRLVYPHSLWPQIKGR LLEHSRIKVGDPADFEGT FFSAVIDAKSFARIKKWLEH

Shigella ipaH9.8	6	prey67711	184	GATTGATGCCAAGTCTTTGCCCGTATCAAGAAAGTGGCTGGAGCACGCGCG CTCTCGCCAGCCTCACCATCTGGCTGGGGCAAGTGTGATGACTCCGT GGGCTACTTTGTGAGCCCTGCATCGTGGAGAGCAAGGACCCCTCAGGAGCC CATCATGAAGGAGGAGATCTTGGGCTGTACTGTGTGTACGTCTACCCG GACGACAGTACAAGGAGACGCTGCAGCTGTTGACAGCACCCAGCTAT GGCTCACGGGGCAGTGTCTCCAGGATAAGACGCTCGTGCAGGAGGC CACAAAGGTGCTGAGGAATGCTGCCGCAACTTCTACATCAACGACAAGTCC ACTGGCTGATAGTGGCCAGCAGCCCTTTGGGGGGCCCGAGCCTCTGG AACCAATGACAAAGCCAGGGGCCACACTACATCTCTGGCTGGAGCTCGCC GCAGTGCATCAAGGAGACACATAAGCCCTGGGGGACTGGAGCTACGCGTA CATGCAGTGA	385	ARSSPSLTLAGGKDDSV GYFVEPCIVESKDPQEPIM KEEIFPVLVVYVYDDKY KETLQLVDSTSYGLTGAV FSQDKDVQEATKVLRNA GNFYNDKSTGSINQQPF GGARASGTNDKPGGPHYL RWTSPQVIKETHKPLGDW SYAYMQ*
Shigella ipaH9.8	6	prey2118	185	AACAGAGTGCCTCCTGCTCTTTGGGAGCCTGGAGGAGAAAGAGCCGG GAGGGCGCTGCGGGGAAGCCACCTGCGGATTCACCTGGCTGCTGCCGC CCAGGACTGTAGCAAGCAGGAGGCTGCCAGACTGGGGCTCCCTGCT CCGTGCTCAGGTTGGGGAACCCACCTCTGCCCCAGACCCCTGACCCAGGA CCGCTGAGGAGCTGGG	386	NRAASWLFGLGGEGAGR GAAGKPPADSLAAAPRTA SKHGLPDLGLPAPCVRLG KPPSAPDPDPGPAWRKL
Shigella ipaH9.8	6	prey3596	186	ATGCTCAGGCTGTGCAGACAAACGGAACTCAACCATTAAGCAAAACATGGG AACTCAGTTTATATGATTACAACGAACACCTCAGGAGGCAATAACAGATGG CTTAGAAATGTGTTTACCTCGAAGTCTACAGTGAATTAATGTGCCAA TTTTGTGGATGTTGAAGAACACCATGACTACAAAGGAGTGTACATCGT TTTTGTGAGACTGCATCATCAGAGCCCTTAGAAGTGGCAACAAAGATGTC CTACCTGTGGGAAAACACTAGTTTCCAAAAGATCATAAGGCCAGACCCAA CTTTGATGCACTCATCAGCAAAATTTATCCAAAGTCTGATGAGTATGAAGTC ATCAAGAGAGATATTAGCCAGGATCAACAAAGCACAATAATCAGCAAGCACT CAGTCACAGCATTGAGGAAGGACTGAAGATACAGGCCATGAACAGACTGCA GCGAGGCAAGAAACACAGATTGAAATGGTAGTGGAGCAGAAGATAATGG TGACAGTTCACACTGCAGTAATGCATCCACACATAGCAATCAGGAAGCAGGC CCTAGTAACAAACGGACCAAAACATCTGATGATTCTGGGCTAGAGCTTGATA ATAACAATGCAGCAATGGCAATTGATCCAGTAATGGATGGTGTAGTGAAT TGAATTAGTATTGAGGCTCATCCACACTTATGGAAGAAAGATGACAGTGCA CAGACGAGATACATAAGACTTCTGGTAACGCCACTTTGATCATTATCCAA GTATCTGGCTGTGAGGTTAGCTTTAGAAGAACTTCGAAGCAAGGTGAATCA AACCAGATGAACCTTGATACAGCCAGTGAGAGCAGTATACCATTTATATAG CAACAGCCAGTGGCCAGTTCACTGTATTAAATGGCTCTTTTCTTTGGAAATTG GTCAGTGAGAAATCTGGAAGTGAACAAACCCATGGAACCTTTATTACGCAC CTACAAAGGAGCACAAATGA	387	MSQAVQTNGTQPLSKTWE LSLYELQRTPEAITDGLEI VVSRLSHSELMCPICLDM LKNMTTKECLHRFCADCI TALRSNGKECPTCRKLV KRSLRPDPNFDALISKIYPS RDEYEAHQERVLARINKHN NQALSHSIEEGLIQAMN RLQRGKKQIENGSGAED NGDSSHCSNASTHSNQE GPSNKRKTSDSGLELDN NNAAMAIDPVMMDGASEIEL VFRPHPTLMKDDSAQTRY IKTSGNATVDHLSKYLAVRL ALEELRSKGESNMNLDTA SEKQYTIYATASGQFTVLN GSFSLVLSEKYWKVKNKP MELYAYPTKEHK*
Shigella ipaH9.8	6	prey3596	186	ATGTCCAAAGCGGCACCGTTGGACCTAGGGGAGGATTACCCCTCTGGCAAG AAGCGTGGGGGACCGATGGGAAGGATCGAGATCGAGACCGGGATCGTGA AGATCGGTCTAAAGATCGAGACCGAGAACGTGATAGAGAGATAGAGAGCG		MSKRHLDLGEDYPSGKK RAGTDGKDRDRDRDRERE SKDRDRDRDRDRERE

Shigella ipaH9.8	6	prey666	187	AGAGAGGGAGAAAGAAAAGGAGAGAGTTGCGAGCTTCAACAAATGCTAT GCTTATCAGTGTGGATTACACCCCTGAAAGCTTCCCATTGAGCTCACTCA ACCCACTCAGACATTCAACGCATTTACACATTTCTGCTCATTTCAACGCATGC CGACATGCAGGTACACGTCACCTCCACAGTGCATTAATCCGTTCAACCAAC TTACCCCATCTCTCGATACTATGATATTTAAAGAAACGCTTTCAGCTCCC TGTTTGGGAATACAAGGATAGTTTACAGATATTTCTGGTAGACATCAGTCCCT TTGTACTGTTGGTGAGACTGGTCTGGTAAACAAACACAAATCCACACCG GTGTGTGGAGTACATCGGATCATTACAGGACCCCAAGAGAGGAGTTGCCTG TACCCAAACCCAGGAGAGTGGCTGCAATGAGTGTGGCTCAGAGAGTTGCTGA TGAGATGGATGTGATTTGGGCCAGGAAGTTGGTTACTCCATTCGATTGAA GACTGCAGTAGTGCAAAAACATTTTTATGTATATGACTGATGGGATGTTACT TCGTGAAGCTATGAATGATCCCCCTCTGGAGCGTTATGGTGAATAATTCTTG ATGAGGCTCATGAGAGGACACTGGCTACAGATATTTCTAATGGGTGTTCTGAA GGAAGTTGTAAGACAGAGATCAGATTTAAAGGTTATAGTTATGAGCGCTACT CTAGATGCAGG	388	ITSRLSVHILRDGLEDPLE DTGLVQQQLDQLSTIGRCE YEKTCALLVQLFDQSAQSY QELLQASASPMDIAVQEG RLTWLYIIGAVIGRVSFSA STDEQDAMDGELVCRVLQ LMNLTDSRLAQAGNEKLEL AMLSFEEQFRKIYIGDQVQ KSSKLYRR
Shigella ospG	7	prey3917	188	GATGACCAAGCTATACACGCCCAAGAAGTACGCGGTGCCAGCGCTCGAGGC CCATTGCGTGGAGTTCCTGAAGAAGAACCCTGCGAGCCGACAAACGCTTCAT GCTGCTCAGCGAGGCGCGACTCTTCGATGAACCGCAGCTGCCAGCCTGTG CCTGGAGAACATCGACAAAACACTCGACAGGCCATCACCGCGGAGGGCTT CACCACATTGACCTGGACACGCTGTTGGCTGTCTCTGGAGCGCGACACACT GGGCATCCGTGAGGTGCGGCTGTTCAATGCCGTTGTCGCTGTTCCGAGGC CGAGTGCAGCGGCAGCAGCTGCAGGTGACGCCAGAGAACAGCGGGAAGG TTCTGGGCAAGGCCCTGGGCCCTCATTCGCTTCCGCTCATGACCATCGAGG AGTTGCTGCAGGTCCCGCACAGTCGGGCATCCCTGGTGACCGCGAGGTG GTCAGCCTCTTCTGCACTTCAACCGTCAACCCCAAGCCACGAGTGGAGTTCA TTGACCGGCCCGCTGCTGCCTGCTGGGAAGGAGTGACGATCAACCGCT TCCAGCAGGTGGAGAGTCGCTGGGCTACAGCGGGACCAAGTGACCGCATC AGGTTCTCAGTCAACAAGCGCATCTTCGTGGTGGGATTTGGGCTGTATGGAT CCATCCACGGGGCCCAACCGACTACCAAGTGAACATCCAGATTTATTCACACCGCA	389	MTTLYTAKKYAVPALEAHC VEFLKKNLRADNAFMLLTQ ARLFDEPQLASLCLENIDKN TADAITAEGFTDIDLTLVA VLERDTLGIREVRLFNAVVF WSEAEQCRQQLQVTPENR RKVLGKALGLIRFPLMTIEE FAAGPAQSGILVDREVSL FLHFTVNPKPVRVEFIDRPR CCLRGKECSINRFQQVESR WGYSGTSDRIRFSVKNRIF VVGFGLYGSIHGPTDYQVN IQIHDTSNLTVGQNDTGFS CDGSASTFRVMFKEPVEVL

Shigella ospG	7	prey63632	189	TAGCAACACCGTCTTGGCCAGAACGACACGGGCTTCAGCTGCGACGGCTC AGCCAGCACCTTCCGGGTATGTTCAAGGAGCCGGTGGAGGTGCTGCCCAA CGTCAACTACAGGCCCTGTCCACGCTCAAGGGCCAGACTCCCACTACGG CACCAAAGCCCTGCGCAAGGTGACACACGAGTGCCTCCACCCAGGGCGCCA AGACCTGCTTCACTTTTGTACGCGCGCGGGAACAACAATGGCACATCCGT GGAGACGGCCAGATCCCGAGGTCACTTCTACACCTAG		PNVNYTACATLKGPDSHYG TKGLRKVTHESPTTGAATC FTFCYAAGNNNGTSVEDG QIPEVIFT*
Shigella ospG	7	prey63632	189	CTGTGGAAAGCCTTCACTTGGAAATCACACCTTATTGAGCATCAAAGAACT CACACTGGTGAGAAACCTTATCACTGTACCAAAATGTAAGAAGAGCTTTAGTC GAAATTCATTGCTTGTGAGCATCAAAGAAATTCACACTGGGAAAGACCCCA TAAATGTGGTGAATGTGGAAAGCCTTTCGATTAGCACATACCTTATACAAC ACCAAAAAATTCACACTGGGAGAGCCTTTCCTTGTATTGAGTGTGGAAAA AGTTTCAGTCGGAGCTCATCTTATTGAACATCAGAGGATCCATCTGGTG AAAGACCTTATCAGTGCAAGAGTGTGGGAAAGTTTCACTCAGCTTTGCAA CCTTACTCGTCATCAGAGAAATTCACACGAGAGACAGCCCATAAATGTGAG GAATGTGGAAAGCCTTGTAGTAGAGCTCAGGTCTTATTAGGAAAGTTTGTAT TTCAACAGGAGAGAACTTATCCATACAAATGAACCTACCTAAGGAGAAATCTTA CCAAATTCAGTCTTGTATACAGCAGGAGTACCTAAGGAGAAATCTTA TAAATGTGATGAATGTGGAAAGCCTTATTAGTTAGTGTCTCATCTGTACAAC ATCAAAGAAATCCACACTGGTGAAAGCCTTATCTATGCTGTCTGTGGGA GAGCTTCAGCGGAGCTTCTTATTGAACATCAGAGAAATCCACACTGGA GAGAGACCTTATCTGTGACAGAGTGTGGGAAAGCCTTATTAGTCACTTTGTA ATCTTATTCAGATCAGGCTGTTCACAGAGTAAATACCCCATAAATGTGAT GAATGTGGAAAGCCTTATAGCGGAACTCGGCTTATTCAGCATCAGAGAA TACACACGAGAGAGAACTTATAGTGTGAGAGTGGCAGACAAAGTTTCAG TCAACAGCGGAGTCTTCAACCATCAGATGATCCATGAGAGGTGAAACCC CAAGAAACCATGAATGTGATGCTTGTGGTGAAGCCTTATTGCGGTATTTC TCTTATTCAGCATCAGAAATTCACACAGCATGGATGCAATAA		CGKAFSWKSHLIEHQRTHT GEKPYHCTKCKKFSRNSL LVEHQRIHTGERPHKCGEC GKAFRLSTYLQHQKIHTGE KPFLCIECGKFSRSSFLE HQRIHTGERPYQCKEKGK SFSQCLNLTQRHRTGDK PHKCECGKAFSRSSGLIQ HQRIHTREKTYPNETKES FDPNCSLVIQEVYPEKS YKDECGKTFVSALHVQH QRIHTGEKPYLCTVCGKSF SRSSFLEHQRIHTGERPYL CRQCGKFSQLCNLRHQG VHTGNKPHKCECGKAFS RNSGLIQHQRIHTGEKPYK CEKCDKFSQQRSLVNHQ MIHAEVKTQETHCEDACGE AFNCRISLIQHQLHTAWM Q*
Shigella ospG	7	prey2109	190	GACTAAGGATCACCATTACTTTAAGTACTGCAAAATCTCAGCATGGCTCTTC TGAAGATGGTGATGATGCCAGATCGGAGGCAATTTGGAAGTGATGGGTC TGATGCTAGGAAAGGTGGATGGTGAACCATGATCATTATGGACAGTTTTCG TTTGCTGTGGAGGCACTGAAACCCGAGTAAATGCTCAGGCTGCTGCATAT GAATACATGGCTGCATACATAGAAATGCAAAACAGTTGGCCGCTTGA ATGCAATCGGGTGTATCATAGCCACCTGGCTATGGCTGTGGCTTCTGG GATTGATGTTAGTACTCAGATGCTCAATCAGCAGTTCAGGAACCATTTGTAG CAGTGGTGATTGATCCAAAGAAACATATCCGAGGGGAAAGTGAATCTTGG CGCCTTTAGGACATACCCAAAGGGCTACAAACCTCCTGATGAAGGACCTTCT GAGTACCAAGACTATCCACTTAATAAAATAGAGATTTGGTGTACACTGCAA ACAATATTATGCCTTAGAAGTCTCATATTTCAAATCCTCTTTGGATCGCAAT GCTTGAGCT		TKDHHYFKYCKISALALLKM VMHARSGGNLEVMGLMLG KVDGETMIIMDSFALPVEGT ETRVNAQAAAYEYMAAYIE NAKQVGRLENAIGWYHSH PGYGCWLSGIDVSTQMLN QQFQEPFVAVVIDPRTTISA GKVNLFARTYTPKGYKPPD EGPSEYQTPLNKIEDFGVH CKQYYALEVSYFKSSLDK LLE

Shigella ospG	7	prey54201	191	ACGGATTAATAAGGAACCTAGTGATTTGGCCCGTGACCCCTCCAGCACAATGT TCTGCAGGTCCAGTTGGGATGATATGTTTCATTTGGCAAGCCACAATATGG GACCTAATGACAGCCCATATCAAGCGGTGATTTCTTTTGACAATTCATTTT CCTACAGACTACCCCTTCAACCCACCTAAGGTTGCATTTACAACAGAATTTA TCATCCAAATATTAACAGTAATGGCAGCATTTGTCTCGATATTTCTAAGATCAC AGTGGTCGCTGCTTTAACAATTTCTAAAGTTCTTTATCCATTTGTTCACTGC TATGTGATCCAAACCCAGATGACCCCTAGTGCCAGAGATTGCACGGATCTA TAAACAGACAGAGATAAGTACACAGAAATATCTCGGGAATGGACTCAGAA TATGCCATGTGA	392	RINKELDLARDPPAQC SA GPVDDMFHWQATIMGPN DSPYQGVFFLTHFTDY PFKPKVAFTTRIYHPNINS NGSICDLRSQWSPALTS KVLISICLLCDPNDDPLV PEARIYKTRDKYNRISRE WTQKYAM*
Shigella ospG	7	prey1922	192	AACTGGTGCTGCTCTGCTAAGGCCAAGCCGGCTGAAGCTCCTGCTGCTGC AGCCCCAAAGCAGAACCTACAGCAGCGGAGTTCTCCCTGCAGCACC CATACCCACTCAGATGCCACCGTGCCCTGCCCTCACAGCCTCCTCTGG CAACCTGTGTGCGAGTAAACCCACTTTGCCACCACTAGCTGAGCCA GGAGCTGGCAAGGTTGCGTTCAGAACATCGGGAGAAAATGAACAGGATG CGGACGGCAATTTGCTCAGCGTCTGAAGGAGGCCAGAAATACATGTGCAATG CTGACAACTTTAATGAGATTGACATGAGTAACATCCAGGATGAGGGCTC GGCACAAGAGGCTTTTGAAGAAACATAACCTCAACATAGGCTTCATGTC GGCATTTGTGAAGGCTCAGCCTTTGCCCTGCAGGAACAGCCTGTTGTAAT GCAGTGATTGACGACACAAACCAAGAGGTGGTGTATAGGATTATATTGACA TCAGTGTGCAAGTGGCCACCCACGGGCTGGTGTGTTCCAGTCATCAGGA ATGTGGAAGCTATGAATTTGAGATATTGAACGGACCATCACTGAACCTGGG AGAGAAGGCCGAAAGAAATGAACCTGCCATTGAAGATATGGATGGCGGTAC CTTCAACATTAGCAATGGAGGCTTTTGGCTGCTCTTTGGAACACCCATT ATCAACCCCTCAGTCTGCCATCCTGGGATGATGGCATCTTTGACAGGC CAGTGGCTATAGGAGGCAAGGTAGAGGTGCGGCCCATGATGATGAGGCAC TGACCTATGATCACCAGGCTGATTGATGGCAGAGAGGCTGTGACTTTCTCCG CAAAATCAAGGCAGCGGTAGAGGATCCAGAGTCTCTCTGATCTTTAG GGCGGCCAGCAGGAGGCTGATGAAGGAGCTTGAAGAAATCCGCAATGTGG GATGAAAAACTTCGTAACATCCAGTTGATGAAGCTAATTTATTGACTTGGC AAGGGCTTATTGTTCTGACAACCTCCATATGATAAGGGAGCCTTCAGAA CGAAATCAACTTTCCAGCAGAGTACCCATTCAACCAACCGAAGATCACATTA AAACAAGATCTATACCCAAACATCGAACGAAAGGGCAGGTGTCTGTGCC AGTAATTAGTCCGAAACTGGAAGCCAGCAACCAACCCAGCAAGTAATC CAGTCCCTCATAGCACTGGTGAATGACCCCAAGCTGAGCACCCTGCTCGG GCTGACCTAGCTGAAGAAATCTCTAAGGACCGTAAAAATTTCTGAAGAAATG CTGAAGAGTTTACAAAGAAATATGGGAAAGCGACCTGTGGACTAA	393	TGAAPAKAKPAEAPAAAA B KAPTAAAVPPAAPIPTQ MPPVSPSPQPSGKPVSA VKPTVAPPLAEPGAGKGLR SEHREKMNMRQRIARL KEAQTCAMLTTFNEIDMS NIQEMRARHKEAFLKHNL KLGMSAFVKASAFALQEQ PVNAVIDDTTKEVYRDYI DISVAVATPRGLVWPVIRNV EAMNFADERTITELGEAR KNELAIEMDGGTFTISNG GVFGLFTPIINPPQSAIL GMHGFDRPVAIGKKEVR PMYVALTYDHLIDGREA VTFLRKIKAAVEDPRVLLD L*
Shigella ospG	7	prey67418	193	GGCGGCCAGCAGGAGGCTGATGAAGGAGCTTGAAGAAATCCGCAATGTGG GATGAAAAACTTCGTAACATCCAGTTGATGAAGCTAATTTATTGACTTGGC AAGGGCTTATTGTTCTGACAACCTCCATATGATAAGGGAGCCTTCAGAA CGAAATCAACTTTCCAGCAGAGTACCCATTCAACCAACCGAAGATCACATTA AAACAAGATCTATACCCAAACATCGAACGAAAGGGCAGGTGTCTGTGCC AGTAATTAGTCCGAAACTGGAAGCCAGCAACCAACCCAGCAAGTAATC CAGTCCCTCATAGCACTGGTGAATGACCCCAAGCTGAGCACCCTGCTCGG GCTGACCTAGCTGAAGAAATCTCTAAGGACCGTAAAAATTTCTGAAGAAATG CTGAAGAGTTTACAAAGAAATATGGGAAAGCGACCTGTGGACTAA	394	AASRLMKELLEEIRKCGMK NFRNIQVDEANLLTWQGLI VPDNPYDKGAFRIENFPA EYFPKPKITFTKIYHPNID EKGQVCLPVisaENWKPAT KTDQVIQSLIALVNDPQPEH PLRADLAEYSKDRKFKCK NAEFTKKYGEKRPVD*
Shigella ospG	7	prey67314	194	ATGATGGCGAGCATGCGAGTGGTGAAGGAGCTGGAGGATCTTCAGAAGAAAG CCTCCCCATACCTGCGGAACCTGTCCAGCGATGATGCCAATGTCTCTGGTG TGGCAGCTCTCTCTTACCCGACCAACCTCCCTACCACCTGAAAGCCTTCA	395	MMASMRVVKELDLQKKP PPYLRNLSSDDANVLVWHA LLLDPQPPYHLKAFNLRISF

				ACCTGGCATCAGCTTCCGCGCGGAGTATCCGTTCAAGCCTCCCATGATCAA ATTCAACAACCAAGATCTACACCCCAACCGTGGACGAGAACGGACAGATTTGC CTGCCCATCATCAGCAGTGAGAACTGGAAGCCTTGACCAAGACTTGCCAA GTCCTGGAGGCCCTCAATGTCTGGTGAATAGACCGAATATCAGGGAGCCC CTGCGGATGGACCTCGCTGACCTGCTGACACAGAATCCGGAGCTGTTCAGA AAGAAATGCCGAAGAGTTCACCCCTCCGATTCCGGAGTGGACCGGCCCTCCTAA ATGTCAGTTGGGCACAAGGCCAGGAGAGCAAGATTGATACAAAACCAAT GAACCTGTGTGGAGGAAACTTCACTTTCTTATTACAAATCCCAAGCGCC AGGACCTTGAAGTTGAGGTGAGAGCAGCAGCAGCACCTGTTCCCTGGGA ACCTGAAGGTCCCTCAGCAGCTGCTCACAGTGAGGACATGACTGTGA GCCAGCGCTTCAGCTCAGTAACCTCGGTCCAAACAGCACCATCAAGATGA AGATTGCCCTGCGGGTGCTCCATCTCGAAAAGCGAGAAAGGCCCTCCAGACC CTGGGATGCCCTCAAGGCTGCCGCTATGCTGCTGAAGCCAACGACACCGA GCTGGCCCAAGGCCATCCTGGATGGAGCCAGCATCACCTGCCTCATGGCAC CCTCTGTGAATGCTACGATGAGCTGGCAATCGCTACCAGCTGCCATCTAC TGCTGTACCGCGCGGTGAACCTGCTGCTGGAGCACACGGAGGAGGAGAG CCTGGAGCCCCCGAGCCTCCACCCAGCGTGCGCGTGAGTTCGCGCTGA AGGTGCGCTGTCCACGGGCAAGACGTGAGGTGAGCGCCAGCCTGCC GACACAGTGGGCAGCTCAAGAGGAGCTGCACGCCAGGAGGAGCATCGA GCCATCGTGGCAGCGGTGTTCTTCTCGGGAAGCTGCTCACAGACCGCAC ACGGCTCCAGGAGACCAAGATCCAGAAAGATTTGTCTATCCAGGTCATCATC AAC				PPEYFKPPMIKFTTKIYHP NVDENGQICLPIISSENWKP CTKTCQVLEALNVLNRPNI REPLRMDLADLLTQNPELF RKNAEEFTLRFVDRPS*
Shigella ospG	7	prey67435	195	ATGTCAGTTGGGCACAAGGCCAGGAGAGCAAGATTGATACAAAACCAAT GAACCTGTGTGGAGGAAACTTCACTTTCTTATTACAAATCCCAAGCGCC AGGACCTTGAAGTTGAGGTGAGAGCAGCAGCAGCACCTGTTCCCTGGGA ACCTGAAGGTCCCTCAGCAGCTGCTCACAGTGAGGACATGACTGTGA GCCAGCGCTTCAGCTCAGTAACCTCGGTCCAAACAGCACCATCAAGATGA AGATTGCCCTGCGGGTGCTCCATCTCGAAAAGCGAGAAAGGCCCTCCAGACC CTGGGATGCCCTCAAGGCTGCCGCTATGCTGCTGAAGCCAACGACACCGA GCTGGCCCAAGGCCATCCTGGATGGAGCCAGCATCACCTGCCTCATGGCAC CCTCTGTGAATGCTACGATGAGCTGGCAATCGCTACCAGCTGCCATCTAC TGCTGTACCGCGCGGTGAACCTGCTGCTGGAGCACACGGAGGAGGAGAG CCTGGAGCCCCCGAGCCTCCACCCAGCGTGCGCGTGAGTTCGCGCTGA AGGTGCGCTGTCCACGGGCAAGACGTGAGGTGAGCGCCAGCCTGCC GACACAGTGGGCAGCTCAAGAGGAGCTGCACGCCAGGAGGAGCATCGA GCCATCGTGGCAGCGGTGTTCTTCTCGGGAAGCTGCTCACAGACCGCAC ACGGCTCCAGGAGACCAAGATCCAGAAAGATTTGTCTATCCAGGTCATCATC AAC			396	MSVGHKAQESKIRYKTNEP VWEENFTFIHNPKRQDLE VEVRDEQHQCCLGNLKVPL SQLLTSEDMTVSQRFQLSN SGPNSTIKMKIALRVLHLEK RERPPD
Shigella ospG	7	prey67443	196	CTGGGATGCCCTCAAGGCTGCCGCTATGCTGCTGAAGCCAACGACACCGA GCTGGCCCAAGGCCATCCTGGATGGAGCCAGCATCACCTGCCTCATGGCAC CCTCTGTGAATGCTACGATGAGCTGGCAATCGCTACCAGCTGCCATCTAC TGCTGTACCGCGCGGTGAACCTGCTGCTGGAGCACACGGAGGAGGAGAG CCTGGAGCCCCCGAGCCTCCACCCAGCGTGCGCGTGAGTTCGCGCTGA AGGTGCGCTGTCCACGGGCAAGACGTGAGGTGAGCGCCAGCCTGCC GACACAGTGGGCAGCTCAAGAGGAGCTGCACGCCAGGAGGAGCATCGA GCCATCGTGGCAGCGGTGTTCTTCTCGGGAAGCTGCTCACAGACCGCAC ACGGCTCCAGGAGACCAAGATCCAGAAAGATTTGTCTATCCAGGTCATCATC AAC			397	WDALKAAYAAEANDHELA QAILDGASITLPHGTLCECY DELGNRYQLPIYCLSPPVN LLEHTEESLEPEPPPSV RREFPLKVRSLSTGKDVRLS ASLPDVTGQLKRLHAQE GIEPSWQRWFFSGKLLTDR TRLQETKIQKDFVIQVIN
Shigella ospG	7	prey67317	197	CGTGTGCGCGTCTGCCGCAAGAAGTTGCTCAGCTCCATCAGGCTGCGCAC CCACATCAAAGAGGTGCACGGGCTGCCAGGAGGCTTGGTCTTACCAG TTCCATCAACCAGAGCTTCTGCCTCCTGGAACCTGGTGGGACATCCAGCAA GAAGCTCTGGGGACCAAGCTACAGCTGGTGAAGAGGAGTTTGCCCTCCAG GGCGTGA			398	SVPSAARSSSAPSGCAPTS KRCTGLPRRPWSSPVST RASASWNLVGTSSKKLWG TSYSWWKRSLPSRA*
Shigella ospG	7	prey67393	198	GAGAAATCCACAAGGAATTGAATGATCTGGCAGCGGACCCCTCCAGCACAGTG TTCAGCAGGTCCTGTTGGAGATGATATGTTCCATTGGCAAGCTACAATAATG GGCCAAATGACAGTCCCTATCAGGGTGGAGTATTTTCTTGACAATTCATTT CCCAACAGATTACCCCTTCAACCCACCTAAGTTGCAATTTACACAAGAAATTT ATCATCCAAATATTAACAGTAATGGCAGCAATTTGCTTGATATTTACGATCA CAGTGGTCTCCAGCACTAACTATTTCAAAAGTACTCTTGTCATCTGTTCTCT GTTGTGTGATCCCAATCCAGATGATCCTTTAGTGCCTGAGATTGCTCGGATC TACAAAACAGATAGAGAAAAGTACAACAGAATAGCTCGGGAATGGACTCAGA AGTATGCGGATGTAA			399	RIHKELNDLARDPPAQCSA GPVGDDMFHWQATIMGPN DSPYQGGVFFLTIHFPTDY PFKPKVAFTRIYHPNINS NGSICLDILRSQWSPALTIS KVLISICLLCDPNPDDPLV PEIARIYKTDREKYNRIARE WTQKYAM*
Shigella ospG	7	prey700	199	ATGGGAATTGGTCTTTCTGCTCAAGGTGTGAACATGAATAGACTACCAAGTT GGGATAAGCAATTCATATGTTACCATGGGATGATGGACATTCGTTTTGTCT TCTGGAACCTGGACAACCTTATGGACCAACTTCACTACTGTTGATGATGCAITG			400	MGIGLSAQGVNMNRLPGW DKHSYGYHGDDGHSCSS GTGQPYGPTFTTGDVIGCC

Shigella ospG	7	prey67411	200	GCTGTTGTGTTAATCTTATCAACAATACCTGCTTTACACCAAGAATGGACAT AGTTTAGGTATTGCTTTCACCTGACCTACCGCCAAATTTGATCTCTACTGTGGG GCTTCAACACACGAGGAGGTGGTCGATGCCAATTTTGGCAACATCCTTTC GTGTTGATATAGAAGACTATATCGGGAGTGGAGAACCAAAATCCAGGCAC AGATAGATCGATTTCCTATCGGAGATCGAGAAGGAGAAATGGCAGACCATGAT ACAAAAATGGTTTCATCTTATTAGTCCACCATGGTACTGTGCCACAGCAG AGGCCTTTGCCAGATCTACAGACCAGACCGTTCTAGAAGAATTAGCTTCCAT TAAGAATAGACAAAAGAAATTCAGAAATGGTATTAGCAGGAAGAATGGGAGAA GCCATTGAACAACACCAAC	401	PEEQEERKPSATQQKNT KLSSKTTAKLSTSAKRIQKE LAEITLDPNPNCSAGPKGD NIYEWRSITLGPSPVYEG GVFFLDITFSSDYPFKPKV TFRTRIYHCNINSQGVICLDI LKDNWSPALTSKVLSSICS LLTDCNPADPLVGSATQYL TNRAEHDRIARQWTKRYAT *
Shigella ospG	7	prey67423	201	ATGAGTTCTCAACAGTTTCTCGGTTAGGAGCCCTTCTACCGGGCTGAGCC AGGCCCTTCTCAGATTGCAACACAGTGGTCTGCTGGATTGATAAACCCAGC TGCTACAGTCAATGATGAATCTGTCGAGATCTGAAGTCAGTGCCAGGGAG CACATGAGTCCAGCAGTCCCTCCAGTCCCGGAGGAGAACAGAGCCT GTTGTGTAAGGCCCTATCCACAGGTGCAGATGTTGCGACACACCATGCTG TCGCATCAGCCACACCTGTTGCAGTGACAGCCCGCCAGCACACCTGACGC CAGCAGTGCACCTTTCATTTTCGAGGGACTTATGAAGCCGCCCGGAAAGC CCACCATGCCTAGCCGTCCCATTTGCTCCTGCTCCACCTTCTACCTGTCACT TCCCCCAAGGTTCCAGGGCAGGTTACCGTTACCATGGAGAGTAGCATCCC TCAAGCTTCAGCCATTCTGTGGCAACAATCAGTGGACAACAGGGCCATCCC AGTAACCTGCATCAGATCAGTACAAATGTGCAAAATGTCTATCATCCGAG CAATGCTCCTGGCCCCCTCTTACATTTGAGCTTCTCATTTACCTCGAGGT GCAGCTGCTGCTGTGATGTCAGTCCAGTCTAAAGTAACCAAGTCCCTGAGGC CGACCTCACAGCTGCCAAATGCTGCTACTGCTCAGCCAGCAGTACAGCACAT CATTCACC	402	MSSQFPRLGAPSTGLSQ APSQIANSGSAGLINPAATV NDEGRDSEVSAREHMSS SSSLQSRREEKQEPVVRPY PQVQMLSTHVAASATPVA VTAPPAHLTPAVPLSFSEG LMKPPKPTMPSRPIAPAP PSTLSLPPKVPQGQVVTME SSIPQASAIPVATISGQQGH PSNLHIMTTNVQMSIIRSN APGPPLHIGASHLPRGAAA AAMSSSKVTTVLRPTSQL PNAATAQPAVQHIIH
Shigella ospG	7	prey67298	202	GATATTCTAGGTGTTAGGTGCTGCAATCCCTGGAACGTATTAGTTGATTT TATTTTCATGAGTGTGCATAAAACACCTTCTATCTATGGGACTGGCATGGGGC TTGGTGCTTANAACATATAGATGAACAAGATCTTTGCTAGCAAGGAGCTGAG AGCTTAGTGAAGAAAGAGTGAAAGTCCACAGTGAGAACATGGAGGNGCAC	403	DILGVRVLQSPGTVLVDFIS *VCIKHLLSMGLAWGLVLT YR*TRSLARS*ELSEERVK SPQ*EHGGAHTWAAGTLP

Shigella ospG	7	prey67464	203	ATACCTGGGCTGCAGGCACACTGCCTNTGCCTGATCCAGTCTCAGACTGA AAATGTGNNCATGATANGAAGANGGGGG		XDPVLT LKNVXMXRXG
Shigella ospG	7	prey67320	204	NTTGTGGTGNNTNGGGGTGATAAGGAAAGAGTGTGAGAAAATGGCATC AACAGGGAACAAGTAAGAGGTCTGGTGCAAGCGGACAAGAGATGAGTCC GTCAACCCCACTGAGACTTGAGAGGATGAGTGGTCTGAGAACTC AGGCAAGCTGAGTAGGTGGCCCCACTATCAATTAATAAAGAGATCAGCTTA CCTGCTACTANTANAGTTACCTGGCTCGATGCANTGATGGCAGTGGGG GCCGNAGCCGNGCCANGGCCCTGGCCTNATNANTTTGAG	404	XXGXXXGDKERV*ENGIKQ GTSKRSKGKRTDESVP HN*DLRGMGS*ELRQS*V GGPTIN*KRDQLTCYXXSY PGLRCXDGSGGRXPXPG PGLXXXE SVPARYFDKLARTALFRWS IEHRDYFSSPWQLSTDLCL PSLKYYF*TMAYI*FISVIV GDLIDIWLCLVPC*QVIYVS KFLPSGN*VSLIL
Shigella ospG	7	prey67321	205	TCAGTGCCCTGCTAGATACCTTGACAAGTTGGCTAGAACAGCGTTGTTGAGAT GGAGCATAGAACATCGAGATTACTTTCTTCCATCCATGGCAATTGAGTACTGAT CTTTGCTTCCATCTCTTAAGTACATTTACTTCTGAACATGATGCTATATAA TTCATATCTGTGATAGTAGTGGTGACTTGATGATAGATATATCTGGCTATGCT ACTTCCATGTAGCAAGTATTTATGTGTCAAAGTTTCTACCCAGTGGGAAT AGGTCAGTTTAAATTTG	405	VLSLXRXVVAIEXLXQEP*K DVXSSXXSKXAGGXPXYH XGAFXXLSXRAFLQLXX HMEVVTIRSLQYYXHQNFX LQXXLVVXXXWXLDAEX VXGGX
Shigella ospG	7	prey35777	206	GTGTTGAGTATNCTCAGANNACGTTGCAATTGAAGNNCTGGNTCAGGAAC CCTGAAAGATGTTNCCAGCTANNATNAAGCAAGNCCGCTGGTGGNGTCT CCTTNTACCATNNGGGCTTTTGNNNNTTNCATCAANGCGTGTCTTTCTT TTCCAACACANANGCACATGGAAGTGGTCACTATCCGCTCTCTCCAGTATT ATANCCATCAGAAATNCTTCTGCAGANNACTGGTTGTGNNGANGCNTNT GTGGGANTTAGACANNCGNAGNNGTNTNCGGGGTTTNT ATGGGCCCTCTCAGCCCCCTCCCTGCACAGAGACATCAATGGAAGGGG CTCCTGGTCACAGCATCACTTTTAACTTCTGGAACCTGCCACCACCTGCC AAGTCAGATTGAAGCCCAAGCCCAAAAGTTCCGAGGGGAAGGATGTTCT TCTACTTGCCACAATTTGCCCAAGATCTTACATCATATGTAGTACGCGTCA GGCAATCAGGGACCTCTACCATACATCATATGTAGTACGCGTCA AATAATTATATAGGCTGCATATAGTGACGAGAAACAGCATATTTCCAATG CATCCCTGCTGATCCAGAAATGTACCCGGGAGGACGCGAGGATCCTACACCT TACACATCAAAAGCGAGGTGATGGACTAGAGGAGTAAGTGGATATTTTAC CTTACCTTATACCTGGAGACTCCCAAGCCCTCCATCTCCAGCAGCAACTTA AACCCAGGGAGGCCATGGAACCTGTGATCTTAACTGTGATCCTGAGACTC CGGACACAAGCTACAGTGGTGATGAATGGTCAGAGCCTCCCTATGACTC ATAGGTTTCAGCTGCCGAAACCAACAGGACCTCTTTCTATTTGGTGACACA AAGTACTGCGAGGCCCTATGAATGTGAATACGAACTACGAACTCAGGAGTGCCA GCCGCAGTGACCCAGTCAACCTGAATCTCTCCATGGTCCAGACCTCCCCA GAATTCACCTTTCATACACCAATACCGTTTCAGGAGATAACCTCTACTTGTCT TGCTTCGGAACCTTAACCCACCGGCACAGTATTTCTTGACAAATTAATGGGA AGTTTCAGCAATCAGGACAAAATCTGTTTATCCCCAAATTAACAAAGCAT AGCGGGCTCTATGTTGCTCTGTTGTAAGTCAAGCCTGCGCAGGAAAGCT CCACATCGTTGACAGTCAAAAGTCTCTGCTTCTACAAAGATAGGACTTCTTCT	406	MGPLSAPPCTEHIKWKGLL VTASLLNFWNLPTTAQVTIE AQPKVSEKDVLLLVHNL PQNLGYIWKQIRDLVH YITSYVVDGQIIYGPAYSGR ETAYSNASLLIQNVTRDA GSYTLHIKFRGDGTRGVG YFTFTLYLETPKPSISSNL NPREAMETVILTCDPETPD TSYQWWMNGQSLPMTTHR FQLSETNRTLFLFGVTKYTA GPYECEIRNSGSASRSDPV TLNLLHGPDLPHIHPSTNY RSGDNLVLSCFANSNPPAQ YSWTINGKFQSQGQNLFI QITTKHSGLYVCSVRNSAT GQESSTSLTVKVSASTRIGL LPLNPT*

Shigella ospG	7	prey67327	207	CTCCTTAATCAACATAG GCAGGCTTTGAACCTTACCCGTTTCTTGACCATGACGACCCCATCTGCGG GATGTGAATCCCTTGATAGAAGTTGGTGGTGGCATTCAGGACCTGAAGC TGCCACGGAGTGGAATGATTTGGGACAGATCAGAGTTGCATGATGCTG GCCCGGAGAGACATGATGATTTGCTGCGGCTGGGACTGCTGAGGT TGACGTGTTCTGTTGCAGAACCCAGGTGGCCGACAGCTCTCAGTATCC ACAACAGGAAGGGCGACGCTTAAACCGAGGAGATGCTGGAGAACAGACTCC CACAGCTGCACGCTTAAACCGAGGAGATGCTGGAGACTGTTCTGAGGCATC TGGAGCAGTTATCCTATGAATACCGTATGGAGACTGTTCTGAGGCATC ATCGAGAGTTGGACATCTATACATTAACCTCTGAGTCTGATTCACATCATGAA CACCATTTCTGGAGACGGTTGCACCTGGACCAATTTTAACTTATGAACAT CCAACAGCACTAATGAAACAAACCTCAAGCAGATGGACAGTCTTATGCC TTAATGATGACAGACAGGATCCTTCCAGTGCCCGACAGACAGATGGCCAGT TTCTTCCCTGTGACCGGAGCCACGACCTCAGCGACTTCTTCTTCTGA AGAGACTGAGAGCACTCAGTGTGCTGCCAGGAGGCC	408	QALNTRFLDQSGPPSGDV NSLDKKLVAFRHLKLPT WNLGTDQSLHDAGPRET LMHFAVRLGLRLTWFLQ KPGRRALSIHNQEGATPV SLALERGYHKLHQLTEEN AGEPDSWSSLSYEIPYGD SVRHHRELDIYTLTSEDS HHEHPFGDGTGPIFKLM NIQQLMKTNLQMDSLM PLMMTAQDPSSAPETDGG FLPCAPEPTDQRLSSEE TESTQCCPGS
Shigella ospG	7	prey412	208	GAGCATTGCACCAAACTACCCGGGTGACATACCCAGCCAAAGCCAGGG CACATTATCGCAGACAGCCACAGAACTTCGCTTGTCTTCCAGCTGGTA GATATGAACACTGCTGCTGAACCTCCTCACCAGACATTTGTCCGACTCC ATAACAGAGACTGGCCAGGAGTGGTGTGTTGCCGAGCCAGACAACA AGAAGGTGTACAGTTTGAACCTGATACCTCTGAAAGAAAGATTGAATTTGAC TCTGCTCTGGACCTACACTCTCTACTTAACTTATGAGATGCCACTTTGAA GAACCAATCCTCTGGAATGTGGCTGATGTGCTCATCAAGTTCCCTGAGGAA GAAGTCCCTCGACTGTCTGTGCCAGAACCTTTTCACTCCAAAACAGGAAA TTCAGCACCTGTTCGCGAGCTGAGAGAGGCCCCCAACCG	409	SIAPKTTTRVTYPAKAKGTFI ADSHQNFALFFQLVDMNT GAELTPHQTFVRLHNQKTG QEVWFAEPDNKNVYKFEL DTSEKIEFDSASGTYYLYL IIGDATLKNPILWNVADVVIK FPEEEAPSTVLSQNLFTPK QEIQLFREPEKRPPT
Shigella ospG	7	prey50598	209	CCTCCGTGTCCGACGCTGCCCGGAGAGGACCTGAGGGCCCGTGTAGCT ACAGGCTGTGGGGTCTATCTCACTGCTGCACCTGGTGTCTCCATGGGC TGCAGCTGTACGGTTTCAGGCAGCGGAGCCAGGAGCCAGGAGTGGAGG CTGCACCGGGCTGTCTCACCAGCGGCTCCTTGGAGGAGAGAGCCGT TTCAGAAACCCCTGTGACCCCTGTGCTGGAGGAGCGGAGGACCCCAAC AGCCACGCTGCGGCCACTGTCTGCTGGAGTGCATCACCAGGTGGTG CAGCAGCAAGCGGAGTGTCCCTCTGCCGGGAGAGTTCCTCCCCAGAA GCTCATCTACCTTCGGCACTACCGCTGA	410	LRVSLPGEDLRARVSYRL LGVISLLHLVLSMGLQLYGF RQRQARKEWRHLRGLSH RRASLEERAVSRNPLCTL LEERRHPTATPCGHLFCW ECITAWCCKAECPLCREK FPPQKLIYLRHYR*
Shigella ospG	7	prey67364	210	TTATTAATGAACAACAGTGGAAATATAGCCAGACCTGACTAACCTTGCCTG TATTTCTTGTAGGCAGGAGAAATCAGAGGATCAAGATCTGGTAGAAGGG CCGGTCTGCTGTTTAAACATACCCAGCAGACAGGTCCACGTTGGAGGCAC CACAGACCTTTAAGATAGGTGAAGCCTTGATAGAAGGAGAAACAGAACTG CCCAGTCTTTACTAGAGTGGAGAACATGNNATTCTGTATTTATTTATGT TGACTGCGCANCITTAACNTTTNTAAACC	411	LLNETTVE*PDLTNLACIFL* AGENQRHQDLVEGPVCCCL THTSRQVPRGHRHRLR*G EALIEGETEAHCLYLEVEN MXFCNYLC*LRXFTFXN
Shigella	7	prey67367	211	ATCCAGCAAAACCGCTGCTAAATGTCAACTAGTGTCTAAAGAAATTCAGAAG	412	SSKTAACLSTSAKRIQKELA

ospG					GAACCTGCAGAAATCACATTGGACCTCCTCCAACTGTAGTGTGGACCCA AAGGAGACAACATTTATGAATGGAGTCAACTATATTGGACCCCAAGATC TGCTATGAAGAGGGGTGTTCTTCTTGACATTACCTTTTACCAGACTATC CGTTAAACCCCTAAGTTACCTTCGGAACAAGATCTATCACTGTAATATT AACAGCCAAGGTGTGATCTGTCTGGACATCTTAAGGACAACCTGGAGCCGG CTTTAACTATTTCTAAAGTTCTCTCTCCATCTGCTCACTTCTACAGATTGCA ACCCTGCTGACCCCTCTGGTGGCAGCATCGCCACACAGTACATGACCAACA GAGCAGAGCATGACCCGGATGGCCAGACAGTGGACCAAGCGGTACGCCACA TAG		EITLDPNCSAGPKGDNIY EWRSTILPPGSGVYEGGVF FLDITSPDYFPKPKVTFR TRIYHCNINSQGVICLDIKD NWSPALTSKVLSSICSLT DCNPADPLVGSATQYMTN RAEHDRMARQWTKRYAT*
Shigella ospG	7	prey67369	212		GTTGCAATGAGCCGAGATGGTGCCACTCATGTATATGAACATCATCCATGGT GGAACCTTTTTCAGATGTGTGAGCTCTGTAACTTTTAAAGTCTCTGGAACAT AGTATTTTAAAGTACACTGTATATCTATCATCAGGAATTAATAATTGTTAGCT TATATCTACATTTCAATAAATGAAGCTGTGCTATGTTGATAGCAAACTGTG TTTAACTTACTGCTGATTAGGCTGTACGTACGTCAATGAACCTGGTGAAGGA GAAATTTATGAACATANCITCAAC	413	VAMSRDGAHVYETHPWV NFFQMCELCNLLRSWKHS FKSTLYISIRKLLAYIYISIK CKPVAMLIANLNLVIRLLR TSMNW*KEKIYETXLN
Shigella ospG	7	prey67372	213		GAGATAAGTGATGTGAGAGTTTAATAACAACCTCCGGCAGCAGATGGAGAA TTACCCGAAAAACAACACACTGCTTCGATCTGACAGGATGACAGGCAGAT TTTAAGTGTGTGGGCTGCTAACTACACAGATTGGAGAAAATCCCTTCCA TGTCGAAGAACCCGAGTCCCGACTCCTGCTGCTAATGTTACTGTGGGCTG TGGGATTAATTTCAACGAGAAGCGATCCATAAGGAGGGCTGTGTGGAGAA GATTGGGGCTGGCTGAGGAAAAATGTGCTGTTGTTGCTGACGAGCCCT TGGAAATGCTTTTGTGCGAGTTTGGGAATGCTTTGCTGCTGCTGCTGCTG AAGAGTATCAGAAGTGGCTACGAGGTGATGTAG	414	DKVMSEFNFRQQMENY PKNNHTASILDRMQADFKC CGAANYTDWEKIPSMKN RVPDSCCINVTGCGINFN EKAIHKEGCEKIGGWLK NVLWAAAAAGIAFVEVLGI VFACCLVKSIRSGYEVN*
Shigella ospG	7	prey67379	214		NAAANCNGTCTTAATCGCCACNTACTTCTCCNNNNACATGTAAACATANTT GNTGTTNNGGCCACNGNNGCTGTNANTACTGNATTTNANATNNNTATTGG NNNCTNGCACATGTTAAAGNNNNACAGTTTCTGNACTCTAGGAGANATTCT TGNCTGTAGNGTNAAGTACTTTTCACTNGATAAGCTATGNTGACGTTNCT TATNAGAACNGNNNTANTGNTGANTGATGATNTCCATTCAATGATGTTTGG CCATGAGNNGCTAATTNNCAANACGTGTCGTAATGAGAATAA	415	XXXLNRHXLXXTCKTXLX XXATXGCXYXIXXXYWXLA HVKGXTVSL*EXFLXC*XX STFHXSIXDXYXNXXXX* XHDHXSXCICHEXLIXXTCR NEN
Shigella ospG	7	prey67381	215		ATGACAGTCCAAGCACATGTGGAGGAAGTCCGATGGAGATCAACGTGAAA GTGTTCAAGCAAGAACCAAGAGAGAAAGTTCAGCCCAAGAAAAAGGAGG GAAAAATATCCAGCAAAACCGCTGCTAAATGTCAACTAGTCTAAAGAAAT CAGAAGGAACCTGCAGAAATCACATTGGACCCCTCCTCCCACTGTAGTGTG GACCCAAAGGAGACAAACATTATGAATGGAGGTCAACTATATTGGACCCCC AGGATCTGTCTATGAAGGAGGGGTGTTCTTTTGTGACATTACCTTTTCAACAG ACTATCCGTTTAAACCCCTAAGGTACCTTCCGAACAAGAAATCTATCACTGT AATATTAAACAGCCCAAGGTGTGA	416	MTVQALVEEVPMEINVKVF SKNQKENKFSRKRREKY PAKPLNLCQLVLKEFRNL QKSHWTLPTVLDPKETT FMNGGQLYWDQDLSMKE GCSFLTLPFHQIRLNPLRL PSEQESITVILAKV*